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VOLUBILIS FRENCH EXCAVATIONS AT A MOROCCAN CITY

By Charles Picard*

Member of the Institute; Director of the Art Institute of the University of Paris.

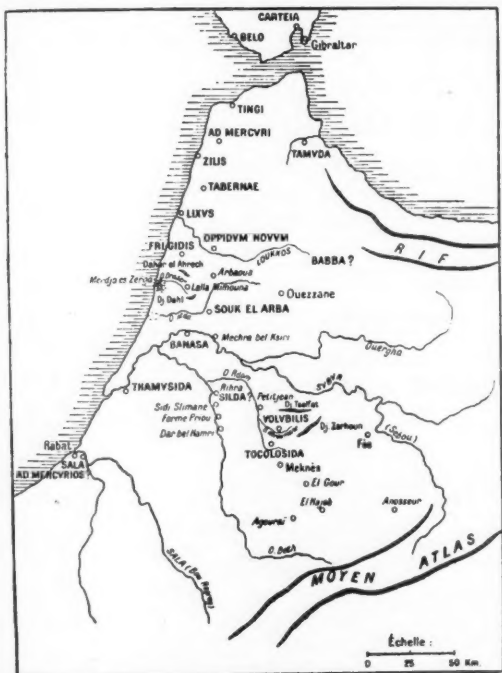
RIVALRY WITH CARTHAGE BROUGHT THE Romans to Morocco. After 146 B.C., when they had conquered the enemy capital, destroyed the ancient Phoenician city, and forbidden its soil to both living and dead, they intended to let the native kingdoms of North Africa which had been under Carthaginian domi-

and seized his reputed treasure, ended this system in Mauretania and made it a new Roman province in 40 A.D. Mauretania was organized during the first years of Claudius' reign; under Vespasian it was taken into the territory and called "Tingitana," Tingis (Tangier).

Volubilis, a fort established against the turbulent tribes of the Middle Atlas, remained the capital; enduring relics of Juba II and the most historic Roman ruins were uncovered here. The *pax Romana*, always somewhat precarious, was an armed peace in Morocco. Moreover, when Diocletian was forced to shorten the lines of empire for better defense, he had to evacuate part of Mauretania and leave it to its own fate in 285 A.D. He retained only the portion of Tingitana corresponding to what is now Spanish Morocco. This region became Christian after the separation, and it was incorporated into the diocese of Spain. After more than four centuries the trace of Rome was effaced without any other civilization from Italy being endangered in the transition.

During the eighth century the first Arab invasion swept over the East, bringing Islam to the places where the Punic and Roman civilizations had met and prospered during eighteen centuries.

The region remained more or less closed to history as well as to the curious tourist until the French Protectorate over the Sherifian Empire was authorized by the treaty of 1912. JOHN WINDUS, however, an "antiquarian" or "dilettante," as archaeologists were then called, had accompanied the English embassy of Commodore STEWART to Meknès in 1721, during the last years of MOULAY ISMAEL, and he published an illustrated account of his voyage in 1729. At Volubilis he had copied several inscriptions, and



Map showing the principal archaeological centers of Roman Morocco.

nation come under the hegemony of Rome. At first the Berber princes were allowed to maintain their position under Roman protection, and certain princes, like Juba II, worked ardently for Italian colonization in Morocco. Caligula, after having assassinated Ptolemy, the son of Juba II,

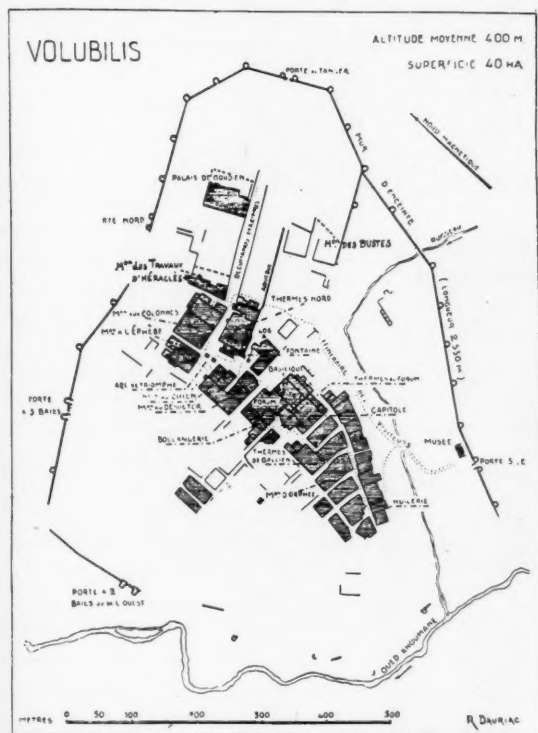
* Translated by WILLIAM C. GRUMMEL.

Volubilis: Arch of Caracalla as partly reconstructed from fallen stones.



he deserves credit for his valuable sketches of the two solitary ruins which then rose a few meters

above the ground: the triumphal arch, the vaulting of which had not yet caved in, and the basilica, whose eastern wall, and perhaps the colonnade on the same side, was extant.



Roman ruins in Morocco: Plan of the ruins of Volubilis.

A century later, French, German, and English scholars transcribed texts or took notes on Volubilis. Two French diplomats, moreover, won the gratitude of scholars even before the Protectorate. CHARLES TISSOT, who had worked in Greece and later identified most of the ancient sites of Tunisia, was minister of the legation in Tangier from 1871 to 1876. Traveling across the country under safe-conduct, he retraced the two routes of the *Itinerarium Antonini*, the coastal route from Tangier to Sala, near Rabat, and the inland route from Volubilis to Tangier. Having found inscriptions with the names of Volubilis and Banasa, he was able to reconstruct the ancient route, stated in Roman miles, by the distance in kilometers between these sites. HENRI DE LA MARTINIÈRE, who was able to lend assistance to the French excavation the first year after the Protectorate, had lived in Morocco as a diplomat. About four miles above Larache, under a grove of lentisks and cactus, he discovered the ramparts of Lixus, the ancient Liks of the Berbers, a large city of the Spanish region which had been Berber, Punic, Roman, and Byzantine. This city, unfortunately, still awaits exploration. HENRI DE LA MARTINIÈRE had previously assembled more than

a hundred Latin texts during his campaigns at Volubilis.

THE REGULAR EXCAVATIONS AT VOLUBILIS were begun during World War I, under the kindly initiative of Marshal LYAUTEY, Commissioner Resident-General. In May, 1915, a small military post was established on a hill near the ruins of Volubilis to guard a camp of German prisoners. There were archaeologists and engineers among the officers. On May 25 the digging began near the visible ruins, with the aid of prisoner labor; later on, native gangs were gradually recruited. With the enlightened support of LYAUTEY, LOUIS CHATELAIN, the first director of the work, a former member of the School at Rome, and a man to whom Moroccan archaeology owes much, established the Service des Antiquités du Maroc, in 1919. For thirty-three years that office has continued to report the most felicitous discoveries, and M. R. THOUVENOT has assured the continuation of the researches with unflinching enthusiasm.

Volubilis itself, established on a spur of Djebel Bou Kennfoud, in a rich oil field, was resurrected at once. During the first century A.D., Pomponius Mela still called it a village, but Pliny called it an *oppidum*, a fortified place. Its musical name was perhaps due to the blooming of the oleanders, *oualili* in Berber. Its first fame came during the magistracy of Valerius Severus, a Carthaginian by

birth, who had settled there, and who, about 44-45 A.D., headed a successful embassy to Claudius at Rome, and won municipal status for his fellow citizens of Morocco. His widow dedicated a memorial, and inscribed it with his titles and honors, in the local forum, where we discovered it in 1915.

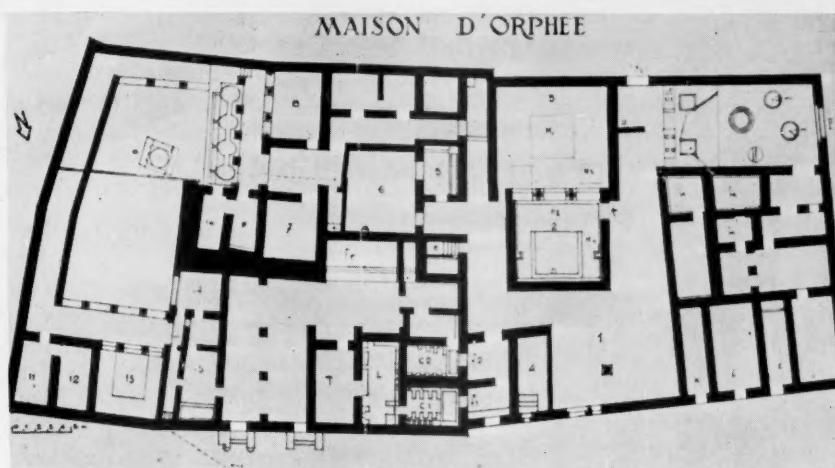
The Roman city of Volubilis is not yet completely uncovered. A beginning was made around the "Palace of Gordian," doubtless the former residence of Juba II, the forum, the basilica, and the arch of Caracalla, in the civic center. The clearing of the city wall brought to light residential sections at several points. Within the walls, the excavators searched for the principal streets, *cardo* and *decumanus*, and disclosed them as a series of threads forming the warp and woof of more or less squared *insulae*. A large, irregular enclosure, roughly triangular since it is wider at the south end, is thus gradually coming to view. It encloses an inhabited area not much smaller than that of Pompeii before the excavations of M. SPINAZZOLA. The outline has been extended to the East, as you see, in order to include as much as possible of the Oued Fertassa, where flocks are sheltered: a utilitarian plan which one day will influence the plan of Fez.

In the civic center, the forum, basilica, and capitol, with their colonnades, recall the municipal life under Roman influence. But this is the one adventitious part, an official adjunct! How much



Volubilis: Ruins of the Roman forum and basilica, as excavated.

Volubilis: Plan of the
"House of Orpheus."



more native is the region to the north with its section of wall standing out regularly, where the Tangier Gate opens up. There, facing the Col Zegota, in the time of the Berber princes, began the route of the *decumanus maximus*. It veers off toward the south and turns, as you see, toward the Arch of Caracalla, erected in 217 by Marcus Aurelius Sebastianus, governor of the province. It is no accident that the edifice called the "Palace of Gordian III," a building 70 m. square, is laid out to the north of that monumental highway. The ruin has an imposing appearance, with its upper stories, its gate with two unequal openings, its façade of eleven columns crowned with Ionic capitals, its succession of *atria*, its pools, its marble pavements, its many rooms reminiscent of local magistrates: the officium of the governor. It is regrettable that its excavation has not yet been completed.

The building was repaired under Gordian III, about 238-244, by M. Ulpius Victor, procurator, as an inscription found in the place indicates. It is not a mere supposition that this great building was the *Regia Jubae*. Juba II, a client prince of Rome whose literary tastes and political tendencies are known to us, had built, in a narrow enclosure in this oldest part of the city, a library with a gallery of busts of statesmen and literary men, comparable to that of the partly excavated villa of Piso at Herculaneum. Two bronzes of that princely collection, which had providentially escaped pillage and dispersion after the murder of Ptolemy II, were recovered not far from here: a magnificent Hellenistic portrait of Hiero II of Syracuse, probably the work of Micon, the son of

Niceratos, and the revealing image of Cato Uticensis, a late republican piece. Had not Juba's own father been the companion in misfortune, and even in death, of that Cato whom Rome canonized as a saint of Stoicism? Both committed suicide after Caesar's victory. Hiero II, as a learned prince converted by force to the cause of Roman victory, to some extent prefigured the destiny of Juba II.

The accidental discovery, in February, 1944, of these masterpieces of Graeco-Roman iconography would merit by itself the gratitude of connoisseurs to the archaeologists of Morocco. The visitors to the small museum at Volubilis will go straight to them despite the attraction of the ivy-crowned Dionysus. In the light of our knowledge of Syracusan art of the latter half of the third century B.C., the Hellenistic king, with his immortal youth, a diadem on his brow, and an air of nobility on his countenance, is unique.

Not less precious is the Cato, with the name lettered in silver on the breast like the bronze bust of the infant Augustus made at Rome and, according to Suetonius, inlaid with letters spelling *Thurinus*, the short-lived sobriquet of the future emperor. Attempts have been made to ascribe the work to the first or even second century A.D., certainly erroneously, for it is reminiscent of the art of the first and second triumvirates, and reveals itself so clearly—one might say, to the life—as a posed portrait. Could it have been possible to copy, with so sharp and merciless a realism, such and such characteristics of the face: "the large mouth, strong nose, and low ears, and that certain inclination of the head, at once thoughtful and

purposeful," except during the lifetime of Cato—perhaps when, as executor of the will of the last Ptolemy of Cyprus, he associated with sculptors instead of moralists?

Following various occupations, perhaps Berber, Carthaginian, and neo-Punic, and after the brief rule of the kings, a rich Berber-Roman city developed at Volubilis under the imperious tutelage of



Volubilis: Young Dionysus, bronze.

Dea Roma. M. R. THOUVENOT's annual exploration of the wealthy homes has been profitable, for the rich works of art discovered have conferred appropriate traditional names on the houses: House of the Crowned Ephebus, House of Orpheus, House of the Busts, House of the Bronze Dog, and so on. Though Caesarea-Cherchel, the other capital of Juba in Caesarean Mauretania, a coastal city, was more favorably situated for the importation of marbles coming from Hellenic workshops, Volubilis reveals itself as astonishingly rich in bronzes of all sizes brought overland by caravans. There now is evidence that this commerce in art objects—an important source being Alexandria, on the opposite side of Africa—began before the reign of Juba II, and increased later. These secluded and hidden villas, probably set up at the propitious moment when the Roman administration was drawing back under Diocletian, have vied in providing—certainly unintentionally—ex-

cellent Greek bronzes: a small archaistic youth called "the Cavalier," the large Dionysus or reveller, the old fisherman, besides the two busts from the library mentioned above, which could only have come from the *Regia Jubae*. We might also add a bronze horse of classic Greek type, and a salugi dog of lively movement.

There are, moreover, a large number of statuettes which cast light on the various cults. The marbles which have been discovered are inferior, probably local products. Perhaps an excellent portrait of an unidentified prince should be singled out. Luxury of appointment was common at Volubilis under Juba II; the excavations have brought to light a large number of engraved bronze ornaments which adorned Bacchic couches—the fashion for which goes back to Boethos of Chalcedon in the middle of the third century B.C. The tastes of the princes explain the presence of Hellenistic furnishings at Volubilis.

That the *Regia Jubae* had been pillaged is shown by the presence of Hiero II and Cato in the later House of Busts, the property of the Berber-Roman Vincentius, at the beginning of the third century A.D. The owner of this house was associated with a sect of Dionysus (as the emblem on the threshold of his *triclinium* indicates) and practiced, like his rich fellow citizens, the hedonistic philosophy of a wealthy merchant. Besides an Alexandrian statuette of a fisherman, the house of this collector of antiquities has yielded an important mosaic, still unpublished, which shows the ship of Aphrodite, directed by the Graces, sailing over a mythical sea inhabited by Nereids and Tritons. Of the owners of the artistic houses in Volubilis only this man's name is known.

THE MAGISTRATES, EVEN BEFORE THE DUUMVIRS, had doubtless been interested in having the streets cross each other at right angles, forming a "checkerboard," the normal practice of Graeco-Roman city planning. But the locale had been changed many times, and traces of a more or less chaotic street arrangement are evident in the alignment of many districts. Actually we can hazard only an opinion about the Berber-Roman city. The oppressive heat which prevails in Morocco five months of the year brought about the search for a form of orientation suitable to the needs of health. Often the tablinum, the prin-



Volubilis: Hellenistic portrait in bronze, probably Hiero II, from the library of Juba II.

cial room, is open to the north, as in the House of Orpheus, the House of the Bronze Dog, and the House of Annius Maturus. The same is true of the houses along the great decumanus between the Arch of Caracalla and the Tangier gate: the House of the Satyr with the Winebag, the House of the Nereids, and the House of Bacchus.

The type of Berber-Roman dwelling is now precisely determined. The commercial relations between Spanish Baetica and Tingetanian Mauretania have left their mark, and there are curious resemblances between the capitals, most of them inferior Corinthian, of the porticoes around the houses of Volubilis and those known in Italica, Seville, and Cordova. The great period of Berber-Roman architectural activity dates from Caracalla, who increased his benevolent largess to the city by remitting certain financial obligations. In acknowledgment, the citizens erected a triumphal arch in 217. The period of well-being was still continuing under Gordian III, who had the northeast palace rebuilt.

The mosaics of the houses correspond to the same period; simple geometric or floral patterns abound, showing the origin of the virtuosity of Berber rug ornamentation. There are also some

pictures of limited dimensions: fishing or hunting scenes, Diana surprised by Actaeon, love quarrels, frolics of the Nereids, Hylas among the Nymphs. Certain rich residences, besides the House of Busts which we have mentioned, have yielded very large pictures, as, for example, the House of Orpheus, the most important house in the south quarter, which was the district of the common people, the gentry being grouped to the west around the Forum. In the poorer quarter the House of Orpheus stands out as a large islet of about 60 x 30 m. The dwelling of a leading citizen, as decorations and furnishings show, it was provided with private baths; it had harbored a community association at one time. One of the rooms forms an agreeable patio where four fountains cooled the room when the scorching east wind swept down in summer. That large house was not constructed according to the classical Roman house plan which, perhaps, served as a model for the other houses of Volubilis (the Houses of the Dog, of the Youth, of the Columns), which were all laid out with an atrium with a pool, onto which the other rooms opened. Strenuous efforts were made there to adapt the Roman mode of building,



Volubilis: Handline fisherman, bronze of Alexandrian type, from the library of Juba II.

which was conceived in an entirely different spirit.

The number of mosaics found at Volubilis has continued to increase. Yet when mythological scenes are depicted, they conform to the accepted story. No ancient native beliefs appear in Tingitana. The Graeco-Roman repertory is imposed; the preferred cults are those of Aphrodite-Venus, Dionysus-Liber, and Heracles-Hercules. The same is true of the votive bronzes and the ex-votos; in general we find only the gods of the classical Pantheon of the Mediterranean—with



Volubilis: Portrait bust of Cato Uticensis, bronze with silver inlay. Note the inscription, CATO, on the chest.

some exceptions, as Isis-Attis. Saturn and *Virgo caelestis*, though very popular in proconsular Africa and Numidia, found very few worshippers. Greece and Rome brought their civilization and gods victoriously to Mauretania.

At least fifteen large houses are now cleared of obstruction and well known at Volubilis. For the visitor moving about the city, which is undergoing gradual restoration, their ruins form an extraordinarily interesting repository of architecture and decoration. These houses, with their shady rooms, small gardens, private baths, and patios, where one seems to hear the murmur of fountains and

the vanished music of *jets d'eau*, allow us to reconstruct the life of another time, leisurely and relaxed in the shadows of the porticos and *triclinia*, somewhat busier during the cool hours in the streets and shops where oil and wine, the products of the local fertility, were bartered with lively interest.

Volubilis is not without a history of its own. The visitor who has strolled along its silent streets and conducted his investigations from doorway to doorway is able to find many souvenirs, from the gates of the city to the forum. The principal area of the forum, which measures approximately 40 x 30 m., is filled with the bases of first-century statues recalling local glories, and, especially, the powerful family of M. Valerius Severus, the benefactor of his fellow citizens; the duumvirs, aediles, decurions, and flamens of the town are intentionally grouped in that zone of honor. Evidence for a relatively later period has been found elsewhere, as, for example, the two mansions where inscriptions have revealed the treaties of alliance concluded with the representative of the barbarian Baquates, in 270-280.

The speaker's platform rises more than a meter above the level of the forum; it is a platform of slightly less than 7.50 m. x 4.50 m., mounted by a modest wooden stairway. It appears to have been enlarged under the rule of the popular Septimius Severus, the first African to become emperor. The basilica, seen in ruins by JOHN WINDUS, is situated to the east of the principal area of the Forum. A rectangular edifice in fine blocks of great magnificence, measuring 42 x 23 m., it is undergoing reconstruction and is gradually recovering its symmetry, with its attic rising above the portico with Corinthian columns. The construction can be traced back to the middle of the first century. The capitol was discovered south of the basilica, and excavated in 1924. It was dedicated, a year after the erection of the arch of triumph of Caracalla, to Jupiter, Juno, and Minerva, in honor of Diadumenian and Macrinus; the altar and temple are discernible on a large plot surrounded by shops and a portico on two sides.

We know certain arches of Caracalla across the extent of the ancient world; one at Djemila, another at Volubilis in North Africa, the remains of another at Thasos. The arch at Volubilis—in reality a monumental gate with only one opening—has been restored to us by scholarly effort, as

the photograph will show. It would still remain to replace various important articles of sculpture, including military trophies. A century and a half after the inspection of JOHN WINDUS, who had made a sketch of it, the vault caved in. After the excavations the construction was consolidated, and the vault, the keystones, and the inscription on the eastern façade have been put back in place. The monumental gate was crowned by a bronze chariot with six horses, like the arch of Septimius Severus at Rome: "arcus cum sejugibus et ornamentis omnibus" says the dedication. Only the tiniest fragments of this beautiful crowning-piece have been found. The position of the monument is curious, for it is in the axis of neither the old nor the new city; thus it dominated the great plain stretching out over the left bank of the Oued Pharaoun. At its foot the view takes in all the terrain laying between the Zerhoun and the Tsefat, the outermost limit of advance from Rome to Morocco. Political motives had caused the proud entrance of honor as well as the imperial chariot to be so arranged that dissidents of the entire region might perceive the symbol of Roman grandeur from afar.

ARCHAEOLOGICAL EXPLORATION IN ROMAN Morocco is a long work to which France can and should still devote a great deal of effort in the future. The present account, if helpful, is only provisory. Each new day brings its stone to the building of reconstructed history and revivifies a memory in a past that is full of instruction, political and otherwise. The time will come when the cities in the French zone, both interior and littoral, will relive. Thamusida, which was more extensive than Banasa, has been brought to our attention once more. The Roman *limes* to the south of Rabat—which formed the Roman defense positions between Rabat and the Moulaia, the Malva of the ancients, the boundary of the two Mauretaniae—will benefit from the new methods of aerial exploration, which has produced fine results in Algeria and, as is known, in Syria.

That is the program of the future, which, we hope, will bring to light everywhere the traces of Rome. But nowadays French scholars have no desire to restrict their historical devotion to the superficial vestiges of the Roman past. The place which Islam has held, and still holds, in Morocco

imposes on the Moroccan Institute of Higher Studies a concern for the study of Hispano-Moroccan art from its beginnings to the thirteenth century, a concern which the Institute has assumed very willingly. Morocco offers almost completely unpublished documentation to those interested in the study of the Iberic and Musulman civilizations. It will be to the credit of M. H. TERRASSE and his fellow workers, that they have simultaneously protected it with capable restorations and made it relive by the study of the texts, by the great care given to delicate buildings, and by their



Volubilis: Moroccan pavement, in geometric patterns, from the "House of the Labors of Hercules." From such prototypes were derived the typical patterns of Berber rugs.

publications with plans, elevations, and beautiful photographs. The mosques of Fez and those in northern Morocco have been especially helped by this work of conservation. For a long time they had remained jealously closed to Europeans, and thus their study has almost always brought forth revelations. A series of monographs gives evidence of this; the studies, for example, devoted to the mosque of the Andalusians at Fez are distinguished by their exceptional artistic beauty. The great mosque of Taza, and the Kasbas of the Berbers of Mt. Atlas and the oases, have been able to profit in their turn from a friendly science which is not content to study the vestiges of civilization, but which at the same time protects them.

All photographs courtesy French Embassy, Information Division.



DELPHI

THE EXCAVATIONS OF THE FRENCH SCHOOL AT ATHENS AT THE FAMOUS SANCTUARY OF PYTHIAN APOLLO HAVE PRODUCED PRICELESS FRAGMENTS OF EARLY GOLD AND IVORY STATUES.

Delphi. View from above the sanctuary, looking down across the Temple of Apollo and, incidentally, a good deal of the Greek countryside. M. Alison Frantz photo, 1948.

In the spring of 1938 the French excavators at Delphi had the great good fortune to come upon a rich deposit of gold, ivory, and bronzes. Lifting the paving slabs of the Sacred Way, just below the Temple of Apollo, in the hope of finding inscriptions, they dug through a layer of earth only six or eight inches thick under the slabs and came upon two pits, one about eighteen feet long but narrow and rather shallow, the other somewhat smaller. These pits were filled with sacred objects damaged by fire, broken and discarded, but too sacred to be disposed of anywhere except within the sanctuary itself. Digging only with a knife, and sifting all the earth carefully several times, the excavators collected an extraordinary treasure: plaques of beaten gold, fragments of

ivory figures large and small, bronze statuettes, and terracotta objects.

The greatest interest attaches to the ivories, for we have here for the first time the actual remains of chryselephantine statues—statues of gold and ivory—such as the Greeks made for their greatest and most holy shrines. Phidias made statues in this technique for the Parthenon in Athens and for the great temple of Zeus in Olympia. The flesh parts of these statues, faces, hands, arms, feet, were of ivory; gold was used for the hair, drapery and various ornaments; and the body was often decked with an elaborate robe. The Delphi statues, which were buried about the middle of the fifth century B.C. when they were already about one hundred years old, are consid-



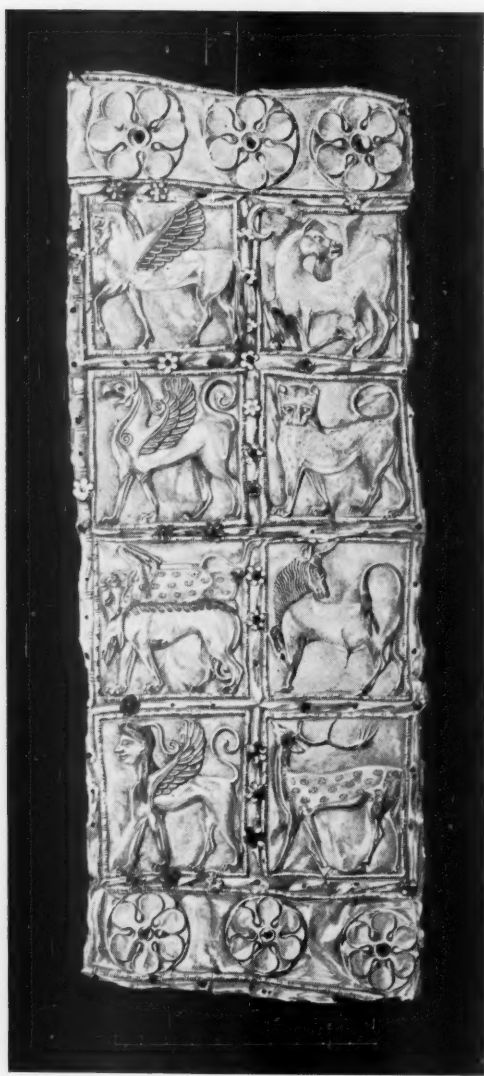
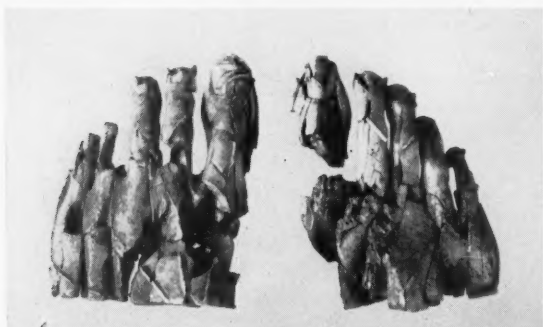
Delphi. Three stages in the restoration of a gold and ivory statue. Left, an ivory head as found, with only preliminary cleaning. Center, the same head with cleaning completed and eyes, nose, and fragments of lips identified and attached. This picture is reproduced again on the cover of this issue. Right, the same head with still further additions: Neck, fragments of chin, pupil of one eye, part of one ear. More pieces are being added as identified. The restoration is being done at the National Museum by IOANNIS BAKOULIS, of the Museum staff, under the direction of PIERRE AMANDRY of the French School. Photos courtesy of the French School at Athens.

erably more ancient than those of Phidias, but the technique is similar.

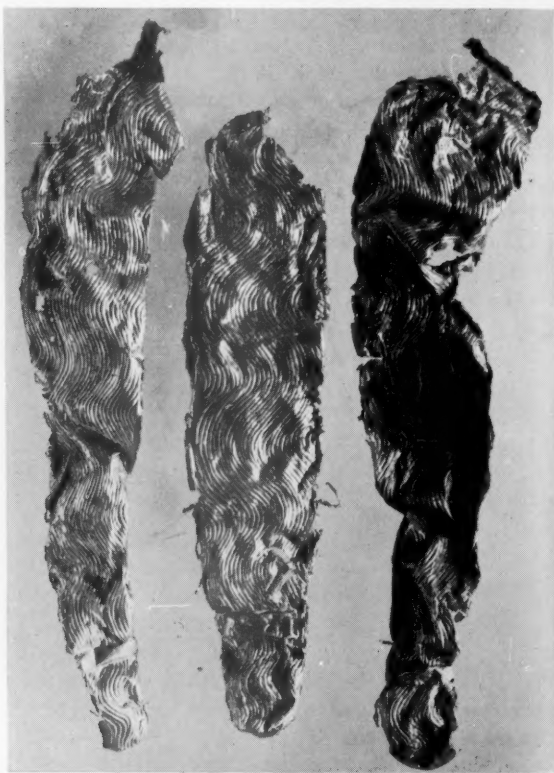
The work of piecing together the ivories has been heartbreakingly slow. The main cores of the two life sized heads were fortunately fairly well preserved, but the broken parts had shattered into literally thousands of tiny bits and slivers. Some mending was done before the war; then the things were packed away for safe keeping. It has been resumed since, but a great deal remains to be done. Our illustrations show the better preserved of the two heads in several stages of repair.

The excavation was done under the direction of Mr. ROBERT DEMANGEL, Director of the French School, and under the immediate supervision of Mr. PIERRE AMANDRY, then a member and now Secretary of the School, and of Mr. P. DE LA COSTE-MESSELIERE. The mending is being done by Mr. IOANNIS BAKOULIS, technician of the National Museum, who formerly worked for the American School of Classical Studies at Corinth and at the Agora in Athens.

—EUGENE VANDERPOOL



Additional finds from the gold and ivory deposit at Delphi. Above, ivory feet. Left, a gold plaque showing real and mythological animals, from a drawing by E. GILLIERON *fils*. Right, a gold plaque, showing a griffin, as found. Below, gold hair from a gold and ivory statue. Photos courtesy of the French School at Athens.



ARCHAEOLOGICAL RESEARCH IN IRELAND, 1939-1948

By E. Estyn Evans, M.A., D.Sc., F.S.A., M.R.I.A.

Professor of Geography at Queen's University, Belfast, Vice-President of the Prehistoric Society, and Editor of the Ulster Journal of Archaeology, Dr. Evans has been Visiting Professor of Geography and Anthropology, during the session just closed, at Bowdoin College, Brunswick, Maine.

DESPITE THE DIFFICULT WAR YEARS, WHICH brought archaeological excavations to a stop even in neutral Eire, the last ten years have witnessed very considerable advances in Irish archaeology. To some extent this was due to the publication, during this period, of results achieved in the pre-war years, notably by the Harvard Archaeological Expedition in Ireland (1932-36) under the direction of Dr. HUGH HENCKEN. In particular, Dr. H. L. MOVIUS' *Irish Stone Age* (1942) has established a firm chronological basis for the lengthy Mesolithic period (c. 6000-2000 B.C.), during which food-gatherers and fisherfolk found their way to the flint-bearing coasts of the northeast and penetrated the angle of waterways which was the legacy of the glacial period to Ireland. Thanks to a series of excavations on sites where archaeological horizons are interbedded with marine and deltaic deposits, MOVIUS has been able to correlate his Larnian and post-Larnian cultures with changes of sea-level and with the post-glacial sequence of climate and vegetation.

More recently, G. F. MITCHELL's work on raised beach sites in County Louth and Dr. O. DAVIES' discoveries in southwest Ulster have extended the distribution areas of these Mesolithic cultures. DAVIES has now completed, at Island MacHugh (Co. Tyrone) his excavation of a crannog-site, which was occupied intermittently from about the seventeenth century B.C. to the seventeenth century A.D. A remarkable series of heavy corded wares, akin to the Neolithic B pottery of England, testifies to the inland penetration of a culture known previously from sandhill sites such as Dundrum (Co. Down) and Lambay Island.

DAVIES had previously shown that this ware, on a crannog in Lough Enagh (Co. Londonderry) postdated the burnished Neolithic A pottery which is associated with the Ulster horned cairns. HENCKEN published an article on the Creevykeel horned cairn (Co. Sligo) in 1939, and work on this extensive family of segmented chambered graves was resumed in 1947 and 1948 by DAVIES at Ballymarlagh (Co. Antrim) and by I. J. HERRING at Tamnyrankin and Knockoneill (Co. Londonderry). At Lyles Hill (Co. Antrim) Dr. E. E. EVANS continued in 1947 his examination of a remarkable hill-top enclosure surrounding a cairn which yielded, in earlier excavations, a vast assemblage of Neolithic A wares. The results confirm the earlier view that this is a sanctuary site.

Knowledge of other types of megalithic monuments is advancing more slowly, and Dr. J. RAFTERY's somewhat disturbing findings at Slieve-na-Calliagh (Loughcrew, Co. Meath) cannot be discussed in advance of publication. But his discovery of engraved bone plaques of the La Tène period in a primary position beneath one of the classic chambered round cairns may force a reconsideration of the whole question of megalithic typology. No one who has studied the megaliths will find it hard to believe that they were visited and utilized during the Early Iron Age—some of them are still the centres of secret peasant cults—but the erection or re-erection of elaborate chambered graves 2,000 years after the introduction of the culture to Ireland raises serious problems.

The list of engraved slabs of the megalithic period has been notably lengthened by Professor MACALISTER's discoveries at Knowth (Co.



FIG. 1. Rectangular house of the Neolithic period at Knockadoon, Lough Gur, Co. Limerick, which probably existed throughout the prehistoric period.

Louth) a previously neglected tumulus in the famous group on the river Boyne which includes Dowth and New Grange. In seeking, without success, the entrance to the chamber which the mound is presumed to cover, MACALISTER came on some 50 recumbent kerbstones, most of them elaborately engraved with curvilinear pecked ornament including several motifs new to Irish megalithic iconography.

It is too early to speak of the results of Professor O'RIORDAIN's extensive investigations at Lough Gur (Co. Limerick), which were begun before the war and recently resumed, as, so far, only isolated aspects of the work have been made public. Both megalithic structures and habitation sites are known to have yielded beaker-pottery, and one wonders whether the copper resources of southwest Ireland had begun to be exploited by the enterprising Beaker-folk. The discovery of a rectangular house of the Neolithic period at Lough Gur (FIGURE 1), taken in conjunction with Dr. BERSU's revelations concerning the round rath-house of the Dark Ages (referred to later) curiously reverses the long-accepted view that the round house antedates the rectangular house. It will probably be shown that both types co-existed throughout the prehistoric period.

Several lesser sites of the Bronze Age have been excavated both in Eire and in Northern Ireland during the last ten years. In this field Professor O'KELLY has been active in Co. Cork, and mention must be made of J. M. MOGEY's discovery in 1948 at Mullaghmore (Co. Down) of the post-

holes of a double concentric timber circle surrounding a low cairn containing late Bronze Age cremations. Many burial cists and artifacts of the Bronze Age were uncovered accidentally during wartime drives for ploughing-up grassland and for turfcutting. In almost every instance, thanks to the vigilance of the police and the Ancient Monuments authorities, archaeologists were able to examine the finds on the spot. In the aggregate, they add considerably to our knowledge of the period, but do not call for individual comment.

Destruction of ancient monuments by the Services in the course of wartime activities was surprisingly slight, though one megalithic chamber which stood on a County Down airfield occupied by American servicemen was found when the war ended to have been entirely swept away. The writer was able to publish a plan he had made during the war and to rescue some information about this war casualty (see *Ulster Journal of Archaeology*, 1948). Cooperation between the Services and the bodies responsible for the care of ancient sites was on the whole satisfactory and has been usefully maintained in the post-war period. Destruction by enemy bombing was almost confined to Belfast, Northern Ireland, and revealed no archaeological surprises.

Although the technique of excavation has been elaborated, there is still room for the amateur who is able to acquire the necessary skills; and both in Eire and Northern Ireland, where excavation can be conducted only under Government license, good work is still being done by the non-professional



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FIG. 2 (left). The slate slab engraved with late Celtic designs which was discovered by Dr. G. BERSU at Lissue, Co. Antrim, Northern Ireland, during his work there in 1946 and 1947 on behalf of the Ulster Archaeological Society.

FIG. 3 (right). The reverse side of the engraved slate slab discovered at Lissue, Co. Antrim. The discovery of this slab enabled the rath to be dated back to the ninth century A.D.

archaeologist. In Co. Londonderry, A. McL. MAY has examined several cairns and circles of the Bronze Age, and at Beaghmore has dug out of a moorland bog a series of stone circles and alignments of remarkable complexity, which seem to belong to a megalithic cult lingering among the northern hills. Not far away in the same county Dr. DAVIES has tried to unravel a complicated series of peat-covered megalithic structures and old field boundaries at Ballygroll, and in Co. Donegal he has tentatively identified a moorland cluster of hut sites of the Dark Ages (Twomile Stone) as the habitations of a group of low-caste cultivators, possibly one of the classes defined in the ancient Irish Laws. In this field of enquiry an explosive contribution has fallen from the pen of Professor T. F. O'RAHILLY (*Early Irish History and Mythology*, 1946). His interesting attempt to replace the legendary histories of Celtic Ireland, beloved of the older generation of archaeologists, by an ingenious reinterpretation of the legends based on philological arguments, is weakened by his neglect of the archaeological evidences. A more cooperative spirit would have justified fuller reference here. A constructive paper by Professor DUIGNAN on *Early Irish Agriculture* (1944) brings together evidence drawn from the Laws and from archaeology, but evades

the difficult problem of joint tenancy under the rundale system. The present writer claims (*Irish Heritage*, 1942) that the origins of rundale must be sought in prehistory but, so far, few settlement sites earlier than the ubiquitous raths have been identified.

Knowledge of the Irish raths has been substantially increased by the careful work of Dr. G. BERSU at Lissue (Co. Antrim) in 1946 and 1947. This was the most ambitious project so far undertaken by the newly formed Ulster Archaeological Society. Using his well-known technique of soil-interpretation, BERSU was able to show that the earthen ring of the rath, upcast from the surrounding fosse, had rested against a palisade which formed the outer wall of a great circular farmhouse, over 100 feet in diameter. The low domed thatched roof covering the interior of the rath had been supported by six concentric rings of stout timber posts. The central ring surrounded the single hearth and constituted the living room, the outer galleries being presumably utilized for livestock and the storage of food and implements. A passage led from the central living room to the entrance, where the fosse was crossed on a wooden bridge of which several posts had survived. There were three periods of occupation, each represented by a habitation floor

thickly strewn with potsherds and worked flints. The lucky find of a slate slab engraved with late Celtic designs (FIGURES 2 AND 3) enables the rath to be dated to the ninth century A.D. The fosse of an older rath, filled in with discarded relics, underlay the habitation floors and yielded a wealth of organic material dating probably from the preceding century. This closed deposit pro-

filling and found to have had a clean clay floor into which four oval pits had been sunk. A well-built drain led from the outer end of the souterrain into the fosse. Several other souterrains, discovered in the course of agricultural operations, have been examined within the last few years, but it cannot be said that we are much nearer to a solution of these mysterious underground structures. On the whole, it seems more likely that they were intended for food storage rather than places of refuge.

Many advances have also been made in fields of study closely allied to archaeology. Of special interest to Ireland is the application to the Irish bogs of Danish methods of pollen-analysis as a tool for chronological determination. JESSEN's report, summarizing many years of patient research, is eagerly awaited. With his fellow Dane, HELBECK, JESSEN has recently published a pioneer paper on cereals in prehistoric Britain and Ireland, based primarily on studies of grain-impressions in potsherds. In the field of ethnology, the Irish Folklore Commission has continued the study of material culture—house-types, furniture, farm implements and vehicles—begun by the Swede AKE CAMPBELL. J. M. MOGEY has investigated regional patterns of rural culture (*Rural Life in Northern Ireland*, 1947), and has conducted and published detailed anthropometric surveys of the modern populations of northeast Ireland. Increasingly, archaeologists are concerned to show the relevance of their work for the modern age, and are not content to be mere antiquarians.

Finally, it is a pleasure to record the growing recognition given to archaeology in the Irish Universities. Long-established Chairs of Celtic Archaeology exist in Eire in the three constituent colleges of the National University at Dublin, Cork and Galway. Recently Trinity College, Dublin, has instituted lectures in the subject and the Queen's University of Belfast has established a lectureship. Dr. BERSU has been appointed to a research Professorship in Archaeology at the Royal Irish Academy. The Academy and the Royal Society of Antiquaries of Ireland publish an expanding stream of archaeological papers, and many regional publications are appearing, including the *Ulster Journal of Archaeology*, revived in 1938. The prospects for another decade of useful work are excellent, and public interest and support are once more on the increase.



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FIG. 4. A well-preserved iron-mounted milk churn of unique design, provided with side rings for suspension. This was another of Dr. BERSU's finds at Lissue, Co. Antrim, Northern Ireland.

vides an unrivalled datum-point for future studies of the material culture of the Dark Ages. It contained numerous turned wooden vessels, as well as much waste from the lathe—evidence of manufacture on the spot—a valuable collection of neatly-stitched ladies' shoes, and a well-preserved iron-mounted milk churn of unique design provided with side rings for suspension (FIGURE 4).

In 1948 a rath on the outskirts of Belfast, half destroyed in the course of building operations, was partly excavated by the writer, who recovered quantities of coarse pottery of Lissue type. An associated souterrain was cleared of its secondary

UNCOVERING A FRIEZE ON THE PERUVIAN COAST

By Richard P. Schaedel

The frieze here shown in progressive stages of uncovering is on the west face of the Huaca del Dragon, an adobe pyramid of indubitable ceremonial character, about two kilometers north of Trujillo, Peru, and within a stone's throw of the Panamerican Highway. It is just outside the great east wall which marks the limits of Chan Chan, the largest prehistoric coastal city of South America. Work is still being carried on, and although the clearing of the outer walls has only begun, some ninety meters of frieze have now been uncovered, most of it with the original color preserved. The work is being done by advanced students in archaeology of the University of Trujillo.

The age of this structure may be placed at approximately 1100-1200 A.D.

(Top) Attention is first called to the relief by the ever-probing hand of the archaeologist, who disturbs the high cap of sand on an adobe wall, just because . . . With a little burrowing, he encounters these suggestive volutes.

(Center) Some attempt is made to appreciate the extent and depth of the frieze. Here we have an indication that it may be a fairly ambitious undertaking, but one with much promise.

(Bottom) In order to discover the base of the wall and its decoration, a trench is dug about a meter from the frieze. As the loose sand falls away from the relief, we begin to understand the elaborate composition.

(The volute in the foreground is modern; in fact, it was executed by an artistically-minded enthusiast who participated in the excavation.)



"As regards the word *huaca* (*guaca*), pronounced "waka," this is a Quechua word that has been adopted in all South American archaeology. It originally meant a grave or sometimes a ceremonial site, and a native who digs graves for their content is called a *huaquero*. However, the meaning of the word has been greatly extended so that today, in Peru at any rate, a single pre-Columbian pottery vessel is also known as a *huaca*; I think this extension of the term not scientifically acceptable." — J. A. M.



The trench has been lengthened, and we are confronted with a series of new motives. On the extreme left is a rather corpulent anthropomorph. In the wide central panel, framed by a flattened arch, is a strange double-headed creature. The figure on the right appears to be a stylized dolphin. The damage done to the relief is largely the result of the occasional severe rains on the north coast of Peru. Toward the base the preservation is progressively better, thanks to its cover of wind-blown sand. In the facing picture the

Later in the season the expedition was able to borrow a tractor for one day, and use it to pull the sand away from the south side of the Huaca del Dragon down to the original ground level. This revealed a second series of panels, their motives closely resembling





base has been reached, and the reader, who may have been speculating on the carnivorous activities of the double-headed monsters, can begin to appreciate their sinister objectives. Prolongation of the excavation to the right has revealed a second panel with similar motives, which suggests that such panels are continuous along the entire face of the pyramid. The frieze was once fully painted in bright colors, and at the base the original colors are well preserved.

those of the west side and somewhat better preserved, wide panels alternating with narrow panels, framed by attached piers, all represented in adobe. The two photographs presented here overlap at the center of one panel and show what remains of eight panels.





FIG. 1. The High Cave, Cape Ashakar, Tangier Zone, Morocco. Here an improvised, rather "Rube Goldberg" cable way was erected to haul up baskets of excavated material by a block and tackle, which was dubbed "the tourist" by the workmen.

The baskets traveled up to sieves on the entrance platform of the cave. Here the contents were searched and sifted, ultimately, into the sea fifty feet below. Dr. HENCKEN (in helmet) and Dr. COON (in large hat) examine contents of a sieve as they lean against the remnant of Pleistocene excavated in 1947.

A PROGRAM OF EXCAVATIONS IN THE STONE AGE OF NORTHWESTERN AFRICA

By Bruce Howe

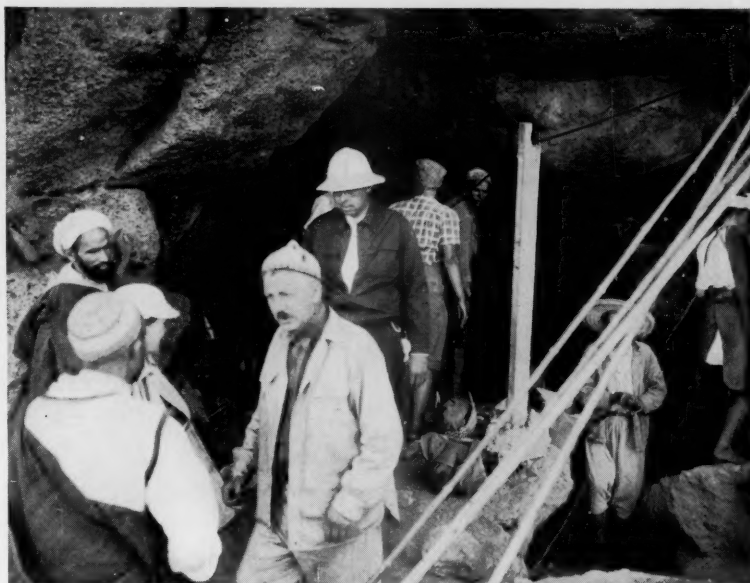
Bruce Howe, a native of Washington, D. C., and a graduate of Yale (A.B., 1935) and Harvard (A.M., 1938), has taken part in prehistoric expeditions of the American School of Prehistoric Research in Anatolia and Bulgaria, and in Tangier, as described in the accompanying article. During the war he served as an Intelligence Officer in the Army. Now studying for his Ph.D. at Harvard, Mr. Howe has spent this spring in Algeria with the Tufts College-American School of Prehistoric Research expedition to Tipasa.

DURING THE SUMMER OF 1947, THE AMERICAN School of Prehistoric Research (A.S.P.R.) carried out excavations in the International Zone of Tangier, on the African side, and at the Atlantic end, of the Straits of Gibraltar. This was the first of what is hoped will become a coordinated series of archaeological investigations into the earlier prehistoric cultures found in those regions of North Africa bordering on the Mediterranean Basin, one of the great arenas for the development of civilization. It is not only rich in remains of the Roman, Greek and earlier Iron and Bronze Ages, but also yields numerous evidences of the prehistoric cultures of humans who were in existence many tens of thousands of years ago. By "prehistoric cultures"

here is meant primarily the various Stone Age cultures known as Palaeolithic (or Old Stone Age) and Neolithic (or New Stone Age); the former are characterized by artifacts of chipped stone and of bone, the latter by the addition of pottery, polished stone tools, and the frequent occurrence of domestic animals. These materials are normally found in caves and rock shelters, but they may also occur in open air sites, often near springs, lakes, rivers, or other water bodies.

When, with the end of World War II, it again became feasible to plan assaults on the unsolved archaeological problems of prehistory in the Old World, the A.S.P.R. put into effect a long-cherished scheme of investigating and reassessing, in the light of the latest theories and discoveries, the

FIG. 2. The High Cave, Cape Ashakar, Tangier Zone, Morocco. Closing time on payday. In front, Dr. COON, wearing native knitted wool cap. Behind, Dr. HENCKEN, in helmet. The Arab workmen, from right to left, are MOHAMMED "GOATSKIN," "BIG ABSOLEM," "LITTLE ABSOLEM," AHMED TUZANI (who knit caps and wove baskets on request), and TIHAMI, the watchman. The latter found among the equipment some Woolworth jewelry that the expedition had brought for the wives of the workmen, and announced to the other natives that we had found the legendary treasure of the "Black Sultan."



Palaeolithic and later periods of prehistory in North Africa from the Atlantic to the Nile in a single coordinated study. This was planned with a view to fixing more precisely, by means of both geological and archaeological work, the relative and absolute dates, the direction of movement, the points of contact and the interplay of influences for each of the several already recognized Palaeolithic and Neolithic industries.

Palaeolithic and later prehistoric remains are widely distributed in Asia, Europe and Africa. Some of this evidence points to North Africa as an important avenue of movement between the Middle East and Western Europe. In North-western Africa, especially, many aspects of the Palaeolithic have been widely reported, studied and defined by numerous keen European observers since the turn of the century. These have been mainly French and Spanish professional archaeologists; but investigations were also carried out by many a colonial civil or military official. Much of this work has necessarily been accomplished on a restricted and regional basis, with detailed descriptions, definitions and re-definitions of categories accumulating as discoveries and investigations proceeded.

There is a growing opinion that the many worthy finds and conclusions made during this age of exploration and discovery in North Africa suf-

fered from local preferences for, and emphasis on, typology and certain alleged geographical centers of distribution. These materials have never been entirely satisfactorily dated or related to each other. They should all now be accounted for on a wider common basis to provide the means of reconstructing prehistoric developments. It is felt this may be done not only by conducting a series of controlled excavations, as opportunity might offer, at selected points along the northern coast of Africa in order to demonstrate geographic distribution and historical movement, but also by choosing sites that are near enough to the coast in regions which may retain geological traces associated with world-wide marine phenomena (primarily erosion benches, beach and dune deposits and other attendant geological features such as old high river and lake terraces) of the Pleistocene Epoch or Ice Age, the interval of geologic time immediately preceding the present one. This campaign would place these archaeological matters in relation to geological deposits and the time-scale they represent. Such a combination of facts provides a most important common denominator, since it supplies a basis for dating which may some day be relatable to similar associations of both archaeological and geological phenomena across the Mediterranean in Europe, in the Near East, and even elsewhere in the Old World.

In this broadly conceived program, the archaeological and geological studies at Tangier were the first step. During its first season's operations the School was generously supported in its archaeological work by grants from the American Philosophical Society and the Viking Fund; it also benefited directly by a grant of the American Geological Society for the geological studies of Assistant Professor CHARLES STEARNS of Tufts College. His research on the ancient sea-levels here effectively complemented and greatly enhanced the purely archaeological investigations in the caves and elsewhere.

TANGIER WAS CHOSEN ORIGINALLY FOR SEVERAL practical reasons. First, the authorities were well disposed to work of this kind. Second, labor and the cost of living were reasonably cheap, to say nothing of the comfortable living quarters obtainable. Third, and most important, stratified middle to late Palaeolithic and also Neolithic and later materials were known to exist in the area, since they had been excavated there at Cape Ashakar from a single sea-coast cave, the High Cave (or Mugharet el 'Aliya), between 1936 and 1940.

The history of these earlier excavations is of interest. The work was begun by the American Consul in Tangier, Mr. HOOKER DOOLITTLE, and by Dr. RALPH NAHON, at that time also a resident there. They selected this cave at random and worked irregularly on week-ends and in their spare time. They brought to light two slim upper deposits containing perfectly modern remains, Islamic sherds and a few Roman sherds. Next, they extracted a rich, ashy, black earth deposit containing a Neolithic type of material culture. This included quantities of flint implements (backed bladelets, geometric microliths, tiny transverse arrowheads, scrapers on flakes and blades, notched blades and flakes, and the flint pebble-cores from which these types of implements were struck); a number of polished stone celts; a great variety of unpainted, coarse shell-marked pottery; a limited quantity of well-made, burnished bright red ware; some simple bone tools (including pointed bone fragments, awls, polishers, short polished tubes and a few needles); and a number of curious oval bone plaques with simple incised linear decoration. NAHON and DOOLITTLE stopped their investigations when they reached what was apparently a sterile deposit of hard red clayey earth.

Several years later, in 1939, Dr. CARLETON S. COON was on a holiday and prosecuted the excavations of his acquaintances by making a sounding through this red deposit, an underlying bed of brown earth, still a second red layer, and into the top of a cemented accumulation of dune-sand. All these formations contained partially mineralized animal bones, and, in the lowermost red layer, some teeth and a fragment of the upper jaw of a Neanderthal individual were found. This lowest red deposit also yielded a few very well-worked, bifacially flaked, leaf-shaped points of a type generally associated only with archaeological stages subsequent to that of the Neanderthal men in Europe and elsewhere.

The overlying brown layer contained a prolific occupation and workshop level with many of the leaf-shaped, and a few tanged, points; here also were simple triangular points of the kind usually found with Neanderthals, as well as various scrapers, simpler implements and the flint cores from which they were struck. The red deposit overlying this (the one originally considered sterile until COON's penetration) contained more of all these same tools and, in addition, two fine winged and tanged bifacially-flaked points, possibly javelin heads.

The mineralized animal bones found in diminishing variety upward through these three archaeological layers included elephant, giraffe, rhinoceros, hippopotamus, zebra, gnu, oryx and wart hog¹, as well as the less significant remains of porcupine, hare, lion, cave hyaena, jackal, fox, gazelle, African buffalo, giant ox and other cattle. This is in marked contrast to the quite modern, completely unmineralized and considerably less varied fauna which came from the black earth Neolithic horizon² immediately overlying the red and brown

¹ This assemblage of species has been found to be typical of Late or early Post-Pleistocene deposits in Algeria and even now exists in the equatorial grasslands of East Africa. Since most of the species in these layers live today in Africa only south of the Sahara, this suggests drastic changes in the climate of northern Africa since the time these cave deposits accumulated.

² Species such as goat, sheep, pig, cattle, jackal, lion, ass, gazelle, oryx, buffalo, porcupine, and hare characterize the Neolithic deposits. These consist partly of the same domesticated fauna as exists in the area today. They are an indication of domestication and, hence, are of great significance in the history of man when occurring in a cave succession which otherwise yields only Palaeolithic material and Pleistocene wild animal forms.



FIG. 3. Cleaver and hand-axes from the Pleistocene river gravels at Cape Ashakar, Tangier Zone. This was the oldest industry found at Tangier. (Reproduced by courtesy of the American Philosophical Society.)

layers. The archaeological deposits of this cave were subsequently nearly all extracted during 1939 and 1940 by the efforts of NAHON and DOOLITTLE, under the remote control of short-wave radio conversations and correspondence with Dr. COON. The events of war prevented further work.

The archaeological investigation of the High Cave, in abeyance during World War II, still posed several problems. Were there present any more remains of Neanderthal Man, until now found principally in Europe? Were these men really the makers, here, of the very delicately wrought leaf-shaped points, so different from and so much finer than what their Neanderthal counterparts made in Europe, Palestine and elsewhere? What did the cemented dune-sand deposit immediately below the Neanderthal level contain in the way of animal bones or flints, and might this layer, or other localities in the region, possibly furnish an earlier archaeological horizon for a truly long stratigraphy in this part of North Africa? What was the explanation for the apparent gap (in archaeological industries and possibly also in soil deposits) represented by the sharp break noticeable between the contents, on the one hand, of the lower red and brown layers with their Palaeolithic implements and a mineralized grasslands fauna, and, on the other hand, the overlying black earth Neolithic layer which yielded pottery, an entirely different stone industry, and a very changed, wholly unmineralized fauna, including domesticated species? Finally, with what pe-

riods of high or low sea-level, and of erosion or deposition, during the Pleistocene or Ice Age, did all these layers correspond?

IT WAS TO ATTEMPT A SOLUTION OF ALL THESE various problems that the A.S.P.R. decided to concentrate in Tangier for this first season's activity (FIGURES 1 AND 2); and, if need be, further seasons could be spent extending investigations there or wherever the trail led. As it turned out, a very important and somewhat unexpected phase of this season's work was initiated by a discovery of Mr. STEARNS'. During the course of his geological investigations, he found Lower Palaeolithic types of hand-axes (FIGURE 3, large flint, quartzite or sandstone cores and fragments very roughly flaked over both faces to form oval or pear-shaped tools), imbedded in a system of river gravels which had been laid down upon the plateau, whose southern end is the promontory of Cape Ashakar containing the caves. On geological grounds this gravel system may be attributed to a river flowing across the plateau into a sea the level of which was roughly 18 to 20 meters above today's ocean. The High Cave and its contents, located some 18 meters above sea-level in the cliff-face of this plateau, could only have come into being in their present form well after the sea-level had dropped below 18 meters. Hence, the gravels and what they contain are older than the deposits in the High Cave. Furthermore, they may possibly date from the last interglacial or Riss-Würm stage of the Pleistocene or Ice Age

since they are associated with geological phenomena comparable to others in Africa and Europe tentatively linked to this time.

The existence of this very old hand-axe culture, similar to one called "Acheulean" found in Western Europe, Africa and the East, had not hitherto been recorded from the International Zone of Tangier in this northwesternmost corner of Africa. Although examples were scarce and came to light only after much searching, they provided definite evidence of human occupation in the Zone at a time during or immediately prior to the deposition of the gravels. This interpretation is made because they have lain undisturbed in these gravels ever since they were dropped directly into them, either by man or by the river which picked them up from earlier localities and incorporated them into its deposit. Since there is evidence that a

few somewhat later, but still Palaeolithic, types of implements are also contained in these gravels, one must consider the gravels not only as absorbing products derived from any earlier periods, but also as drawing from contemporaneous ones up to the moment when the river ceased to function. However, no pottery or Neolithic types of stone tools came from them.

In the course of the season's work in the High Cave (FIGURE 4) the expedition found no more Neanderthals. Nevertheless, enough characteristic Palaeolithic flints were found in the remaining deposits of the three lower archaeological levels to confirm and clarify the pre-war findings (FIGURE 5). The cave and its contents, situated some 18 meters above sea-level, were fitted into the sequence of geological events by investigations within the cave itself, about the cliff-face and the



FIG. 4. Section of the High Cave (Mugharet el 'Aliya), showing all the layers excavated from 1936 to 1947. The sieve in FIGURE 1 is located near Point E'. (Reproduced by courtesy of the American Philosophical Society.)

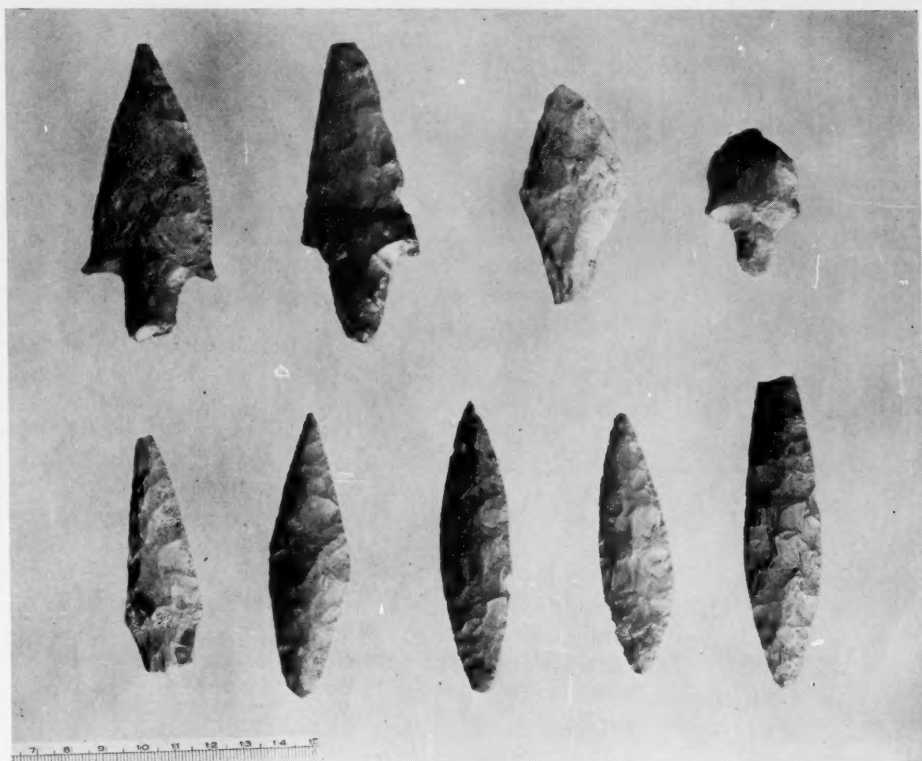


FIG. 5. Bifacially flaked points from the High Cave, Tangier. The upper row, from the upper red layer, includes the two fine winged and tanged points. The lower row shows some leaf-shaped points from the brown layer; the specimen at the extreme left was found in 1947, while the others were obtained in earlier seasons. (Reproduced by courtesy of the American Philosophical Society.)

promontory into which it was cut, and over the surrounding terrain of Cape Ashakar.

It now seems most probable that the sea had advanced and retreated several times before the High Cave was cut into the conglomerate limestone bedrock; that, during this oscillation process, the sea had undercut and broken from the cliff-face huge blocks which tumbled about its base; that the sea had then dropped sufficiently below and to seaward of its present level to allow dune-sand to be blown into, and solidified in, the spaces among these blocks; that the action of ground water, at some time after the sea had finally reached below the 18-meter level, had probably been the agency which formed the cave chamber; that the basal deposit in this chamber was one part of the cemented dune-sand formation, and that it contained no human evidences, although a variety of Pleistocene mammal fauna was found which is now being

studied; that the archaeologically rich deposits were laid down after this period and appear to be the result of a single phase of deposition which produced a layer of brown soil that became subsequently reddened twice by weathering, once in an early stage and again in a final stage; and lastly, that these two weathering stages may represent two periods of relatively warm damp climate corresponding with two minor rises in sea-level and recessions of the ice sheets during the last or Würm glacial stage in Europe far to the north.

A few open-air sites, scattered through the Zone, were located and searched. Most of these appeared to be little workshop or camp sites of Palaeolithic or even Neolithic times. The most interesting one was in the vicinity of the Mackay Radio Station near the coast south of the caves. Here pits, recently dug for new radio towers, yielded quantities of flints. The site consisted of

a single level of Palaeolithic tools, including the same types of triangular points and side scrapers already found in the lower levels of the High Cave but apparently lacking the more distinctive tanged and leaf-shaped points.

In addition, excavations were made at Cape Ashakar in two other caves: the Summer Cave, a small shelter in a fissure just east along the cliff-face from the High Cave; and the Horse Cave (FIGURE 6), one of a number of small shelters in the little valley of the Oued Ashakar just north of the promontory. It was the expedition's hope that more Palaeolithic data and information on the transition to Neolithic might be found here. None came to light, although the chambers of both caves were dug to bed-rock.

However, abundant and closely documented evidence of Neolithic and later periods was revealed in the 5-, 10-, and 25-centimeter layers taken from these caves. This removal by a series of small levels cast much light on the composition of the very similar archaeological horizons found before 1939 in the upper beds of the High Cave. These last had been entirely removed in simple large units without subdivisions and had thereby failed to demonstrate any changes in style or substance of the archaeological material which might have occurred during the period of their deposition. In the new excavations one could begin to see clearly that throughout the principal layer there was much of a basic Neolithic type of coarse pottery with linear and metopic patterns worked in shell imprints of stabbed or rocker designs; that the already noted, well made, burnished bright red ware occurred towards the upper end of this succession; that a considerable amount of grooved or channeled ware, along with other well made sherds bearing stabbed decoration in rows, slightly preceded and somewhat overlapped this fine red ware in time; and that definite evidences of Roman culture were present in the upper third of this succession, thus coinciding roughly with the red ware. The Roman material was scarce but definite, and it included a small coin datable to the time of Constantine the Great, between the years 335 and 337 A.D., a simple bronze fibula of late Iron Age type, and some sherds, including one or two sigillate ware.³

³ A tiny Roman settlement now buried under dunesand just south of Cape Ashakar has provided sherds which it is hoped will give some further clues as to the dates of the upper occupation levels in these caves.

All this creates an impression that the Neolithic culture revealed in the rather shallow deposits of all these caves remained virtually unchanged until invaded by Roman culture and that it persisted even after this impact. Occasional contacts with other Western European, Iberian and even Maltese cultures of the Neolithic and Metal Ages may have occurred during this succession, if the similarities to channeled, certain shell-decorated and the stabbed wares may be relied upon.

ALL THIS WAS SUFFICIENT TO RECONSTRUCT an extensive outline of the prehistory of the Tangier area. The chances were against finding as much additional data in another season's work without a great deal of further time- and fund-consuming operations. Therefore, the A.S.P.R. has decided to move its center of investigations eastward to the Algerian region. Here there is a very good chance that worthwhile cave sites are to be found. Work has been started this spring at Tipasa, on the coast a few miles west of the city of Algiers, in a locality which is on the Mediterranean littoral of Northwestern Africa and within a classic area for the study of Pleistocene marine terraces and deposits. It is also well within the classic area for the Northwest African Palaeolithic industries so closely studied by the French. Here the subdivisions of the Upper and, one hopes, Lower Palaeolithic also may be found in stratified association, together with human and animal remains that can be related to Pleistocene geological features.

To obtain advice and assistance in these North African ventures, and to knit firmer ties between scholars, the School has expanded its organization and advisory board during the last year. It has had the good fortune to be able to include a number of the European authorities involved in these matters. Thus, M. MAURICE REYGASSE, eminent Algerian archaeologist and prehistorian and presently the Director of the Bardo Museum at Algiers, has taken his place on the staff of the School. M. LIONEL BALOUT, Professor of Prehistory at the University of Algiers, is another valued counselor. The late Dr. ARMAND RUHLMANN, who until his recent untimely death was Inspector of Antiquities in French Morocco with headquarters at Rabat, was also an officer, wise friend and helper of the School during its Moroccan activities. The cause of prehistory in North Africa has sustained a serious loss in his death.



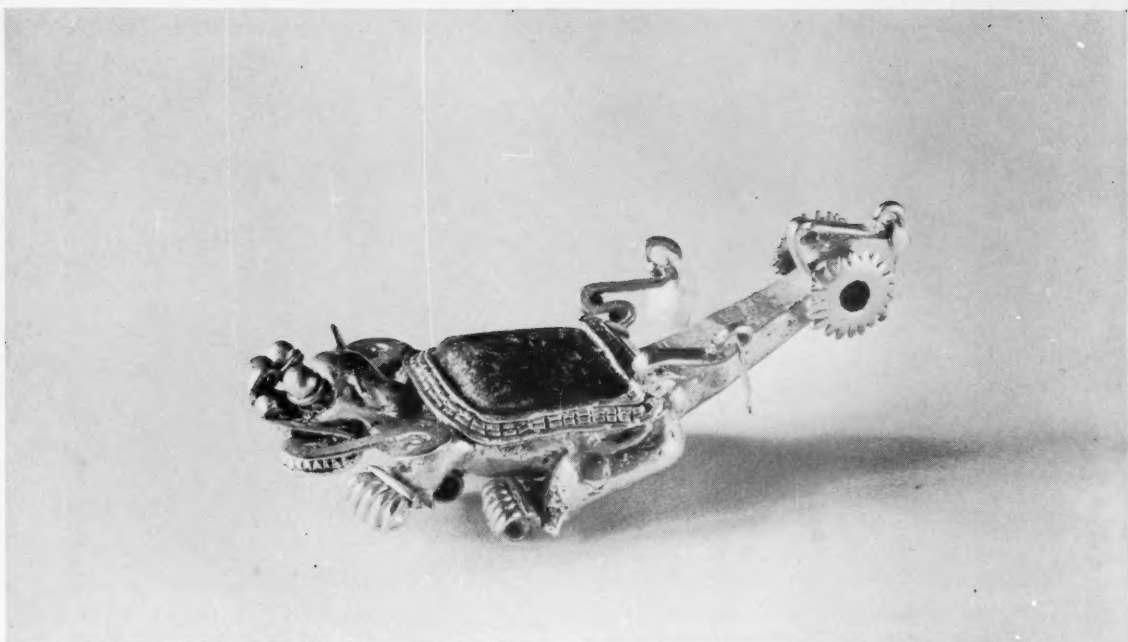
FIG. 6. View north from Cape Ashakar across the small dry valley of the Oued Ashakar toward the Horse Cave. This is in the center, marked by a human figure and the dark smudges of a dump on the slope of dune sand. Other caves to the right have been used as animal corrals and seasonal shelter, and may well contain more prehistoric remains. The Pleistocene river gravels were deposited on the gently tilted plateau above the caves.

The School's liaison with prehistorians and events in all these regions has also been greatly strengthened by the residence of Mr. LLOYD CABOT BRIGGS during part of each year in Algiers. As one of the School's Trustees, his work on the spot in handling the business of the School at the African end is proving most valuable.

The School's past work in Europe, the Near East and Northwest Africa and its future plans to continue active field research gain in significance when one realizes that English prehistoric archaeologists and Pleistocene geologists have begun post-war investigations of very similar problems in Cyrenaica. One may hope that, as the A.S.P.R. forges ahead in its quest for prehistoric evidence

in North Africa on a single unified plan, its contributions may even further arouse the interest of other European and North African archaeologists, prehistorians and geologists, and that these authorities may be enlisted in the common cause of uncovering wider evidences of the early stages and directions of man's progress in the Old World.⁴

⁴ For more detailed information on the Tangier excavations see: M. S. SENYUREK, 'Fossil Man in Tangier,' *Papers of the Peabody Museum*, 16 (1940); BRUCE HOWE and H. L. MOVIUS, JR., 'A Stone Age Cave Site in Tangier,' *Papers of the Peabody Museum*, 28 (1947); HUGH HENCKEN, 'The Prehistoric Archaeology of the Tangier Zone, Morocco,' *Proceedings of the American Philosophical Society*, 92 (1948) 282-288.



Reuben Goldberg photo

A GOLD AND EMERALD CROCODILE FROM PANAMA

THE DRACONIC GOLD ANIMAL SHOWN ABOVE was the most prized personal ornament of a great chief of a Panama Indian group, tribe or town, shortly before the Spanish Conquest, probably in the fifteenth century. His name and fame, like those of his people, are unknown to history, but he was buried in a great grave, eleven feet deep, accompanied by twenty-two other persons, his entire wealth of gold ornaments, hundreds of pottery vessels, and doubtless food, drink, and many perishable objects. Most of his companions in death were probably sacrificed wives and retainers. His grave was excavated in 1940 at the Sitio Conte Coclé, Panama, by an expedition from the University Museum, Philadelphia, under the charge of our Associate Editor, Dr. J. ALDEN MASON.

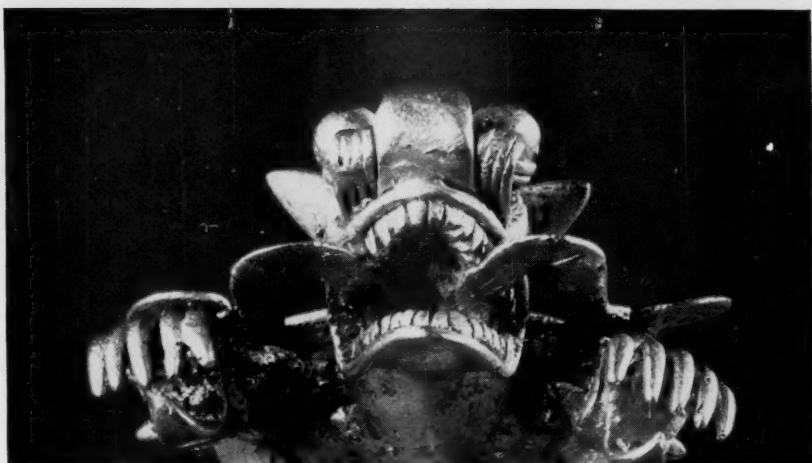
The pendant apparently represents some stylized and conventionalized animal. As the crocodile played a large role in the native art we may presume that this is the saurian here represented.

It is a magnificent example of aboriginal work in pure gold, over four inches in length. Imbedded in the back is a great but low-grade emerald an inch in width and of greater length.

The setting of precious stones in precious metal, one of the most common European techniques, was very rare in Precolumbian America; only a few other examples are known from Panama and the technique was almost unique here. The emerald probably came from the famous Muzo region in neighboring Colombia, but emeralds have also been found in Ecuador and Costa Rica. The figure itself was probably cast by the *cire perdue* process, quite a feat for the aboriginal goldsmith in view of the many quasi-independent features; some of the latter may have been attached later by self-soldering, as well as the three loose triangular bangles. The "cog-wheels" are immovable.

The illustration shows this jewel at approximately natural size.

At right, an enlarged view of the gold and emerald crocodile from Coclé as it appears from directly in front of the jaws. About four times natural size.



Reuben Goldberg photo

The Gold Treasure of Coclé

The field photograph at the right shows the gold ornaments buried with an important chief, of a historically unknown Precolumbian Indian group, in the burial-ground at the Sitio Conte, Coclé, Panama. Apparently he was buried in full regalia, and his excess ornaments were placed around him. Twenty-two other persons accompanied him in death, on three sepulchral levels.

The earth is very black from the amount of organic material in it, derived from flesh, cloth, basketry, and similar materials. Practically all the ornaments are of solid pure gold, absolutely untarnished. In the center, and probably originally on the chest of the great man, are seen the edges of many of the eight great circular gold plaques with repoussée ornamentation, the crocodile pendant with the emerald in its back (shown above and on the facing page), two cuffs, and quantities of spherical and tubular beads. Above these are two long tubular ear ornaments, and, at the top, a group of rosettes or sequins which were probably attached to some garment, possibly a headdress. At the bottom is a large group of tubular ear ornaments. Note the whiskbroom and tray of tools.



J. Alden Mason photo

G. I. DIG

THE OLD DAUNIAN CITY OF HERDONIA HAS a modern successor in the village of Ortona, which is eleven miles from Foggia in southeastern Italy. The extensive cemetery belonging to the city has long been known to the villagers, and they have been digging up pottery and occasional bronzes since 1870 at least. In the museum at Bari there is a good deal of material that is more or less definitely known to have been found at Ortona, and other museums also have some pieces. But the historical value of such material is much increased when the entire content of each grave is known; and, of all the graves opened at Ortona, this is true of only two, which were excavated by QUINTINO QUAGLIATI in 1904.

In 1944-45 Captain BYRON FARWELL, of the 21st Aviation Engineer Regiment of the U. S. Army, found that he had some leisure time and, unlike most of his associates, devoted this leisure to archaeological investigation. He dug a number of graves in the cemetery of Herdonia. Captain FARWELL had no training in archaeology, but he had plenty of energy and enthusiasm, and common sense suggested to him that the various grave-groups should be kept separate. He opened fifteen graves, the objects from which he tagged or labeled to show the grave to which they belonged. The grave-groups consisted almost entirely of pottery, though a few objects of bronze were found. Other pottery, which he obtained from less systematic digging and by purchase or gift, almost certainly came from the same cemetery. Altogether Captain FARWELL brought to this country 209 pieces of pottery, of which 104 belong to the fifteen grave-groups. He presented seventeen pieces to the National Museum in Washington, and the remainder probably constitute the largest collection of Daunian pottery outside of Italy.

The pottery falls into three classes, two large and one small. The first class consists of 92 pieces made by hand and decorated with matt (dull) paint; the second class consists of 106 pieces made on the potter's wheel and decorated with lustrous paint. In these two classes the clay appears to be the same, and they were doubt-

less made in the same place, which would be Herdonia itself or some center not far away. The third class comprises 11 pieces of black glazed "Italiote" ware, made farther south in Apulia under strong Attic influence.

The hand-made pottery is often painted in two colors, red and dark brown or black. The patterns often seem well designed, but are rarely executed with much precision. In the forms there is a conspicuous taste for tall, impractical-looking handles, which sometimes take fantastic forms. Handles like these have a long history in southern Italy and Sicily, and the pottery is seen to belong to an old indigenous tradition, though its exact history is not clear. Some of the forms of the wheel-made ware, on the other hand, show unmistakable Attic influence, whether direct or not. There is clearly no development from hand-made to wheel-made; they belong to different traditions.

Of Captain FARWELL's graves, five contain only hand-made ware, five contain only wheel-made, and five contain both. In three of the last group, the wheel-made pieces are in a minority or atypical; in the other two, the hand-made pieces are in a minority and atypical. The graves illustrate the retreat of an old culture before a new one. The disappearance of the old was not abrupt; but, from the absence of any grave in which old and new are in even balance, one would suppose that it was fairly rapid.

The "Italiote" pieces are found only in graves in which the local ware is wheel-made, predominantly or entirely. They can be dated, with confidence if not with extreme precision, to the late fifth or early fourth century B.C. Of course they could have been placed in the graves centuries after they were made, but that is not probable. Apparently the wheel-made ware first appeared at Herdonia in the late fifth century, and the hand-made ceased in the fourth. It seems likely that all the FARWELL graves would belong to one of those centuries.

Special interest attaches to the monochrome red pottery, which hardly appears elsewhere as a distinct and perfected ware before the Hellenistic period. Being established on Italian soil, it ought not to have vanished without leaving descendants; and perhaps it will prove to have a place in the ancestry of the Roman Arretine ware.

— FRANKLIN PLOTINUS JOHNSON

FIG. 1. All the pottery from this grave is hand-made and matt-painted. Each grave was covered by a stone slab; and each contained, in addition to miscellaneous pottery, a large jug for wine or water with a dipper inside.

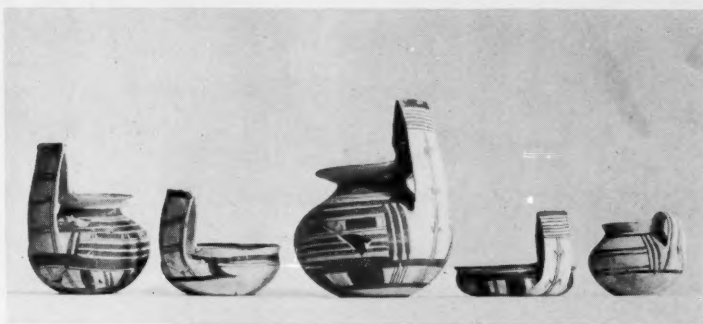


FIG. 2. Here the jug at the right end is wheel-made, but does not have the offset base of most wheel-made jugs; it is decorated with lustrous paint. At the left end is a loom-weight.



FIG. 3. In this grave only two pieces, at the left end, are hand-made and matt-painted. The jug (fourth from left) is an Attic shape. It is covered with reddish lustrous paint, but the color is not uniform as in better examples. The kantharos (third from right) is decorated with patterns in red paint over the black glaze; it is an example of a well known "Italiote" class which BEAZLEY has named the "Xenon Group."



FIG. 4. These 21 pieces come from the largest grave opened by Captain FARWELL and constitute the largest grave-group. All are wheel-made. The skyphos (upper row, third from left) and the kylix (upper row, center) are "Italiote"; the latter has a stamped design on the inside. Seven pieces in the lower row are monochrome red, with the color nearly or quite uniform. Some pieces (two kantharoi at left, upper row) are monochrome black or dark brown; this was probably developed earlier than the perfected red ware.



KOBER ROUMIA

By Margaret and Robert Alexander

AN ANCIENT MONUMENT, ISOLATED ON A HILL-top and without apparent entrance despite its four great doors, cannot fail to pique the imagination of the storyteller, the avarice of the fortune hunter, the zeal of the archaeologist. Such is Kober Roumia in the Roman province of Mauritania.

It stands on a hill near Tipasa in Algeria, overlooking the Mediterranean on the north and the vast plain of Mitidja on the south. It is a massive structure built entirely of cut stone, a high cylinder encircled at its base by two steps and crowned by a great cone, the whole standing on a square platform. The drum is articulated by 60 engaged Ionic columns which carry a simple cornice. At each of the cardinal points of the compass, completely filling the intercolumniation, there is a false door, encased in a plain frame and bearing a decorated entablature.

By the Arabs, the monument has long been called Kober Roumia, translated by some writers as Tomb of the Roman, by others as Tomb of the Christian Woman. The Christian appellation seems to be based on two misconceptions. One is the legend that Florinda, daughter of Count Julian of Spain, was buried here in the eighth century; the other is the misinterpretation of the door panelings as great crosses. It is still called the Tomb of the Christian although one of the few points of agreement among writers is its non-Christian origin.

The earliest reference is by Pomponius Mela in his book *De situ Orbis*, written about 40 A.D. He calls it, simply and ambiguously, *monumentum*.

Left, top to bottom:

Erected in a lonely spot, Kober Roumia appears on first view as merely the top of a distant hill.

A stone structure of imposing size, Kober Roumia has a diameter of 60.90 meters and a height of 32.40 meters, about 105 feet. Originally it must have been higher: A statue or other decoration probably stood on the small platform on top.

Detail of the previous picture, showing one of the false doors.

Details of columns and cornice showing the Ionic capitals with their diminishing volutes. The engaged columns are composed of several blocks which are part of the wall of the monument.



(Photos by R. L. Alexander)



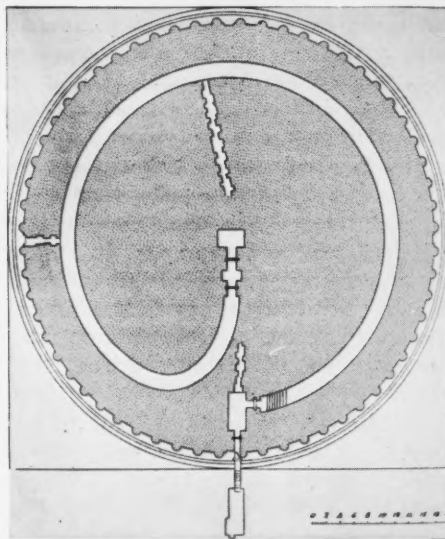
Left: Another view of Kober Roumia, taken during partial restoration undertaken in the 1920's showing derrick and rigging in place. (Photo OFALAC, Algiers) Right: The false door on the east side. Each door is 6.20 meters high, and its flanking columns have more elaborate capitals than those on the rest of the columns. To the right of the sign, but not visible here, is the staircase leading down to the secret entrance. (Photo R. L. Alexander)

commune regiae gentis, common monument of the royal family. The next record is not until the sixteenth century, but from the eighteenth century it is frequently referred to, particularly by travelers whose accounts are full of confused descriptions and native tales.

The most popular legends are those of the treasure supposedly hidden in the monument. One is of a herdsman, who noticed that a cow disappeared every night but was to be found each morning in the midst of the herd. One night he saw her enter Kober Roumia, through an opening which immediately closed after her. The next evening the herdsman seized the cow's tail and so passed in with her. There he was overcome by the quantity and brilliance of the gold he saw. The cow, meanwhile, gave milk to a child seated on a throne resplendent with gold and precious stones. This child was the son of Halloula, fairy guardian of the treasure. When the cow was ready to leave, the herdsman had recovered sufficiently to attach himself to her, not forgetting to load himself down with all the gold he could carry. Needless to say, he repeated this fruitful adventure until he became the richest man in the land.

Inspired by such legends, fortune hunters tried to tear holes in the monuments and even, accord-

ing to certain accounts, to bombard it. It is to the credit of archaeology that it was one of her servants, ADRIAN BERBRUGGER, who succeeded in finding the entrance to the Tomb of the Christian. He began excavations in 1865 after NAPOLEON III had passed near the monument and decided to



Plan of the interior chambers of Kober Roumia, from S. GSELL, *Les monuments antiques de l'Algérie*, I, FIG. 21.



Medracen. This monument, so similar to Kober Roumia, has a diameter nearly as great, 58.86 meters. It is, however, about half as high, only 18.35 meters, about 57 feet. (Photo OFALAC, Algiers)

finance the expedition. BERBRUGGER cut through the south wall and found himself in a vaulted corridor. He discovered the real entrance, with its very low, narrow passage, ingeniously hidden in the substructure beneath the false door to the east. That the monument had been entered previously was only too apparent as nothing was found except some fragments of jewelry and several coins of the fourteenth to sixteenth centuries.

Inside, a long spiraling corridor, on the ground level and reached by seven steps, leads from the entrance room to two groin-vaulted chambers in the center. Along the walls of the corridor at regular intervals are small niches still darkened from the smoke of lamps. The larger of the two chambers at the end, exactly on the axis of the building, has three niches in its walls. The only interior decoration is a crude relief of a lion and lioness above the door of the stairway.

Although there was no material evidence, BERBRUGGER was convinced that the monument was the tomb of the kings of Mauretania. He attributes it to Juba II, king from 25 B.C. to 23 A.D., and his wife, Cleopatra Selene, daughter of Antony and Cleopatra.

In support of this thesis, BERBRUGGER points out that the monument is mentioned by Pomponius Mela in the same passage in which he refers to Juba. In addition, BERBRUGGER compares it with a sepulchral monument in Rome, the mauso-

leum of Augustus. Since Juba was educated in Rome as the protégé of Augustus, he might have imitated his patron.

The strongest argument for its identification as a tomb is the comparison with another stone tumulus, Medracen, in eastern Algeria, in the ancient province of Numidia. For stylistic reasons Medracen is dated in the middle of the second century B.C. It is attributed to Massinissa, a king of Numidia and ancestor of Juba. Since Medracen stands in a large cemetery of similar but small tumuli, it is probably a tomb. In exterior aspect Medracen and Kober Roumia are very similar. They differ, however, in interior disposition, as Medracen has a staircase and straight corridor leading to a single chamber in the center.

GSELL, another French archaeologist, thinks that both monuments should be studied primarily in relation to native sepulchral structures rather than to those of a foreign country. Their size and comparative elegance he attributes to their royal use.

This point of view is certainly too narrow. Even a summary comparison reveals the similarity between Medracen and the earlier tombs of the Etruscans, between Kober Roumia and later tombs like the mausoleum of Augustus. A detailed study along these lines, including an analysis of the decoration, might finally resolve the enigma of the Tomb of the Christians.

THE LOWER RHINE — LANGUAGE AND ARCHAEOLOGY

By Joshua Whatmough

*A native of Rockdale, Lancashire, and a graduate of the University of Manchester and of Emmanuel College, Cambridge University, Joshua Whatmough taught the Classics at the University College of North Wales, and at Egyptian University, Cairo, before coming to the United States in 1926. He is professor and chairman of the department of comparative philology at Harvard University, and the author of *Præ-Italic Dialects of Italy*, *Foundations of Roman Italy*, *Celtica*, *Dialects of Ancient Gaul*, and of numerous other books and articles on linguistic and historical topics.*

ARCHAEOLOGY IS NOT A SCIENCE; NEITHER IS Comparative Philology. The common denegation infers a common affirmation: both disciplines are concerned with the records of human doings, more or less evanescent. Yet, though a man be not a scientist, he still may disdain that other label which inscribes him in the camp of those who misapprehend as a reincarnation a stillborn modern humanism that is but a would-be revival of a pre-modern Aristotelianism. A scholar who is a scholar needs no better name.

The trouble with the humanities is their preoccupation with the deadly *aere perennius*, the frozen *klêma es aeî*, which, by that very token of immutability and immortality, "forever, more lasting than bronze," are in the same measure static, and therefore inhuman. Horace and Thucydides were not the first, and are not likely to be the last, word, any more than NEWTON or EINSTEIN. But the humanists, the contemporary JOWETTS who are so scornful of exact scholarship, of epigraphy and archaeology, have at last sold scholarship short, and now Mr. W. H. AUDEN and his ilk, who have never claimed to be scholars, pocket the profit. And when they take to serving up the *crambe repetita*, whither, poor humanist, wilt thou go?

The diffusion of some tribal dialect or other until it expands to become a world language—that is, in its own world, is always the story of a great quickening in human events; even though the driving force behind such an expansion naturally in time reaches a point of exhaustion and recoil. There are many examples. Indo-European itself, Latin which began merely as the language of Rome and its immediate vicinity, English which began as the language of comparatively insignificant Germanic-speaking tribes, to name no others. Usually there is some conspicuous

natural barrier—an ocean, a mountain range, a broad or deep swiftly-flowing river marks the limit of expansion.

One of the most stable linguistic frontiers, all through history, is that which separates the Romance from the Germanic languages along, but not identical with, the Rhine Valley. Much of its present interest comes from the fact that there was in ancient times also a linguistic frontier not so very different, namely between Keltic and Germanic, in this very same region of Western Europe; and from the fact that at the same time there has been a constant coming and going, a thrusting back and forth, of mankind over this same boundary.

Ancient writers, Thucydides or no Thucydides, were not unaware of this line of demarcation. Modern knowledge, wrung from all too scanty archaeological and epigraphic remains, makes our notions of the frontier much sharper. Thucydides, like Herodotus before him, could only have had the vaguest ideas about the peoples of the west, though interest in them goes back at least as far as the date at which the *Odyssey* was written. This has been cleverly shown by RHYS CARPENTER in his recent book. Besides, the early maps of the Greeks indicate a growing interest in human and physical geography.

Anaximander, for example, even though he made the Danube flow from north to south, must have had some notion of where the Danube came from. It is generally held that the *Logos* of Hecataeus of Miletus was, in effect, "what Hecataeus said" about the map of Anaximander. How vague the details must have been becomes strikingly clear from the amusing story of Cleomenes, King of Sparta, and his brusque expulsion of Aristagoras from Sparta, or from the misunderstandings of Strepsiades in the *Clouds* of Aris-

tophanes about the distance between Athens and Sparta as indicated on a contemporary map. But much more exact information had been won long before the time of the shrewd observer or well informed source upon whom Poseidonius based his statement, afterwards repeated both by Caesar and by Strabo, about the tripartite cleavage of Gaul, and the linguistic and other distinctions that marked the parts. Ptolemy's subdivision (ii 7.1) of what he calls Keltogalatia is substantially the same, except that Narbonensis is now included as well as Aquitania, Lugdunensis, and Belgica.

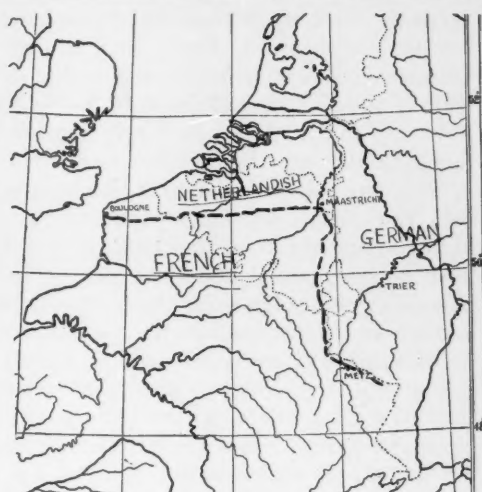
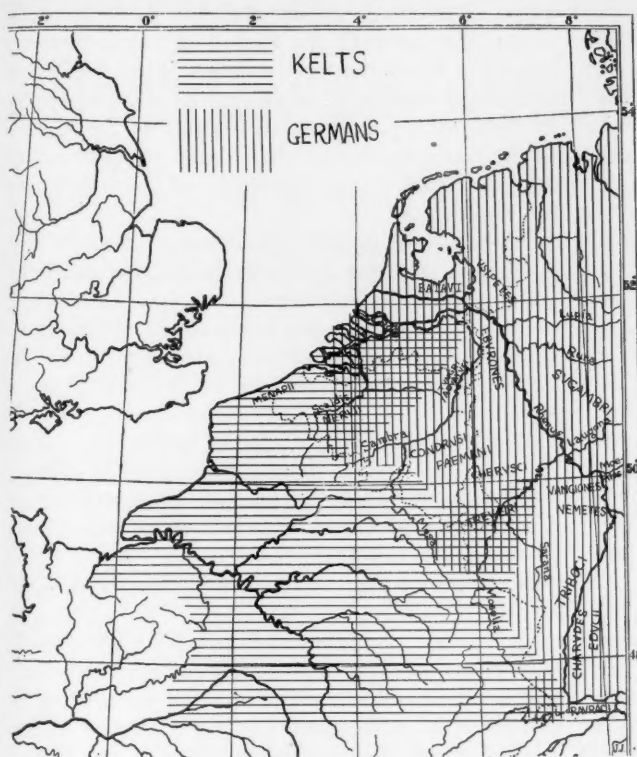
For some years I have occupied myself in trying to discover more precisely than has been known hitherto what the differences in language between these four areas were, and I now think that I have a fairly clear idea about it. In the present paper I shall concern myself with linguistic differences within Belgica, by which I mean the subdivision of that name as understood in the time of Caesar—that is, the Belgica and Germania Inferior of later date combined. The epigraphic evidence is for the most part later than the time of Caesar himself, but, as we shall see, it reflects an earlier state of affairs. As for the other divisions of Gaul I may refer to my 'Prolegomena to the Dialects of Ancient Gaul,' and the maps given there (*HSCP* 55, 1944), adding here only that there are clear traces of Ligurian as well as of Keltic in Narbonensis; that in Aquitania, by which again I mean the Aquitania of Caesar ('Prolegomena,' map 1) the pre-Roman dialect was Iberian, except for a Keltic-speaking enclave around Bordeaux, south of the Garonne; that Keltic was spoken all through the wide sweep of Lugdunensis, from the Atlantic to the Rhine; and that differences of dialect, other than lexical, within Lugdunensis, so far as they can be determined, are comparatively insignificant.

But when we come to Belgica, out of which Germania Inferior was subsequently carved, not as a province as such, but rather as a subdivision made for purposes of military organization, we begin to find clear traces of Germanic speech. It is not possible to say precisely where the ancient linguistic frontier ran, at least not with the precision with which we know the modern linguistic frontier. But the testimony of the ancient writers, combined with the archaeological evidence and with the epigraphic evidence, indicates that Germanic-speaking tribes not only had crossed the

Rhine before the time of Caesar, but also remained firmly entrenched in extensive territories along its left bank.

WE KNOW NOTHING OF THE LANGUAGE OR languages spoken in Gaul before the arrival of the Kelts, with the exception of Ligurian and Iberian in the south. Certainly the once fashionable theory which spread Ligurian all over the map of western Europe was as ill-founded as is the more recent theory, which does little more than substitute Illyrian for Ligurian. That is to say, we have occasional glimpses of an extremely ancient stratum of Indo-European speech, not to be pigeonholed into any of the more familiar classifications, Keltic, Germanic, and the rest. The true explanation of certain similarities that have been observed in nomenclature, for example between Keltic and Slavonic, is most likely to be that these similarities reflect this early stratum of not very clearly differentiated Indo-European. Such at any rate is a wiser interpretation of the evidence than the attempt to extend a strictly definable geographical label, namely Illyrian, to such a degree that, by embracing everything from Spain to the Russian Steppes, it becomes quite meaningless.

Accordingly, from the linguistic point of view, it is Keltic-speaking tribes that we can first clearly distinguish in Gaul. They seem to have spread from southwestern Germany throughout the entire Rhineland, and then to have crossed the river itself into Gaul. When at a later date the territory on the right bank of the Rhine had come to be largely occupied by Germanic-speaking tribes, the old Keltic names often endured, conspicuously the names of rivers, as testimony to the former occupation of those regions by Kelts. The expansion of the Germans to the west of the Rhine begins at a date earlier than the written history of western Europe, but the ancients were in no doubt about their presence. Thus the Aduatuci are stated to have been a remnant of the Cimbri and Teutones, whose invasion of Gaul took place in 113 B.C. Again, Ariovistus and his Germans endangered the Sequani and Mediomatrici, until a stop was put to their further advance by Caesar himself and his legions. But some of them remained in occupation there. Under the early Empire not only the Vangiones (round about Mainz), the Nemetes (round about Speyer), the



MAP 1 (left). Kelts and Germans in the Rhine Valley.

MAP 2 (above). The modern linguistic frontier (represented by broken line).

Triboci (round about Strassburg) are identified as German no less than the Tungri, the Sunuci, and also, at least as having been originally German, the Treueri, and the fierce Neruii; and no less than the Condrusi, Eburones, Caerosi, Poemani, and Segni of Belgica proper.

These statements are based upon historical testimony. The frontier which they imply is indicated with as near an approximation to accuracy as possible on the first map that accompanies this paper. That the testimony is sound, or at least broadly trustworthy, is evident from the archaeological and linguistic evidence. In substance it means that in addition to repeated crossings of the Rhine, and invasions of Gaul—or for that matter France—all through the period for which we have written evidence, down to modern times, there had also been what can only be called a Germanic invasion or invasions of a still earlier date.

The linguistic frontier has been somewhat modified between the days of Caesar and modern times. It is now relatively stable along a line that runs almost due east and west from Boulogne

to Maastricht (passing through Terwaan, crossing the Lye and Schelde north of Lille and Tournai, then running south of Brussels to Tongern). After that it crosses the Maas south of Maastricht, then turns southeast and south so as to run well to the west of Trier and just east of Metz (see MAP 2). North of this line from Boulogne to Tongern and Maastricht we now have Netherlandish speech, east of it German. However both the ancient line and the modern one have been repeatedly breached, and then the invading movement checked or pushed back and the line for a time stabilized. The curious thing about the modern line, at any rate that part of it which runs from Boulogne to Tongern and Maastricht, is that it does not rest upon any obvious natural, that is to say geographical, frontier.

The best explanation of this unusual situation seems to be that during the course of the Empire a line of defenses, roughly the same as the modern linguistic frontier, was established by the Roman military administration to hold back threatening Germanic invasions, and that south of this line a Latinized population, perhaps more numerous and

certainly more stable than that to the north of it, became quite firmly fixed, so that subsequent German invasions, which have gone far south and west of this line, as quite recently in our own day, have left no permanent or deeply imprinted mark linguistically once the invaders were thrust back, or once any permanent settlers had been absorbed into the French-speaking population. Accordingly the descendants, for example, of the Menapii have become entirely Germanized; on the other hand the great bulge along the river valleys of the Sambre and Maas has been in considerable measure Latinized, that is to say has taken over a Romance dialect, since ancient times. With these two exceptions, there can be little question that Germanic speech has survived through the ages, but that Latin has taken the place of Keltic. In other words the old boundary between Keltic and Germanic, as established by Caesar and his successors, though it has dragged here and there, has remained, on the whole, well anchored.

IT IS TIME NOW TO TURN FIRST TO THE ARCHAEOLOGICAL evidence and second to the linguistic evidence that bears upon the summary account which I have just given of the relations between Kelts and Germans in the northeastern corner of Gaul. The old culture of the Marne, a subdivision of the late La Tène culture, was swamped by a German or partly German influx. The result was a mixed civilization in which cremation was practiced. A more striking characteristic is the so-called Belgic ware, the immediate prototype of the Aylesford pedestal-urns of Britain, where it is presumably a product of those Belgae who had migrated across the Channel about 75 B.C. It is believed that these German invasions came in the middle or later part of the third century B.C., but there was no further serious dislocation that

could affect the linguistic make-up of the people in this district until the end of the next century. Thus the formation of the Belgic stock had been completed before 113 B.C., when the incursions of the Cimbri and Teutones began. In the middle of the last century B.C. the Roman conquest effectively stopped mass incursions of Germans for the time being.

Now for the linguistic evidence. Much of the onomastic material is clearly Keltic, for example the names of the *Belgae* or *Treueri* or *Ambiualeti* themselves, but there are other forms which show equally clear Germanic characteristics, such as *Frisii*, or the personal names *Freiatto*, *Friatto* with their initial *f*- and their characteristic gemination, not to mention such words as *ganta* 'goose,' *sapo* 'lye, soap,' both recorded by Pliny; *framea* 'spear,' recorded by Tacitus; *pauta* 'paw,' with which we may compare the personal name Pauto in *CIL* 13. 3992.

Most interesting of all, however, as an indication of the mixture of populations is the wholesale adoption of the Keltic cult of the Matres or Matronae, very often in groups of three as they appear for example on the altar of the *Aufaniae* "Goddess of Abundance," found at Bonn. This cult was taken over by the Germans in the lower Rhine where the accompanying epithets of the Matronae are partly Keltic in origin and formation, and partly Germanic. Nor is it astonishing that both Roman Christianity and Frankish invasion were alike unable completely to abolish all memory of the cult. The Three Marys of Metz, like the group of three popular female saints, *Einbede*, *Warbede*, and *Willebede*, who appear in the Middle Ages in districts formerly occupied by the old mixed Kelto-Germanic population, must surely be a survival of the old pagan Kelto-Germanic cult.

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From the Martyrium to the Church

CHRISTIAN ARCHITECTURE, EAST & WEST

By André Grabar

André Grabar, one of the ranking French Byzantinists, is a native of Kiev, Russia, a graduate of the Universities of Petrograd and Strasbourg, a former professor of the History of Art at the University of Strasbourg, and now professor of Christian and Byzantine Archaeology at the École des Hautes Études and the Collège de France, in Paris, and editor of Cahiers archéologiques. His researches on the cult of relics culminated in the publication of his Martyrium (Paris 1946). During the academic year just closed, he has been Henri Focillon Scholar at Dumbarton Oaks, Georgetown.

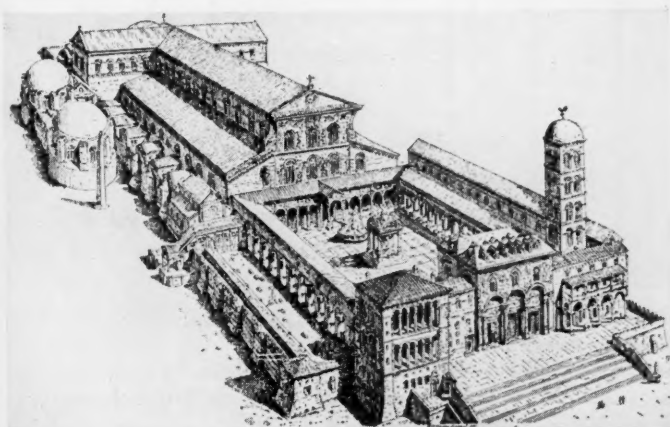
A FEW YEARS AGO I WAS ENGAGED IN ANALYZING IN SUCCESSION THE VARIOUS CHRISTIAN SANCTUARIES, EASTERN AND WESTERN, WHICH SERVED AS MONUMENTAL SETTINGS FOR VENERATED RELICS. THE RELIGIOUS FUNCTION WAS EVERYWHERE THE SAME; THE ARCHITECTURAL FORMS, HOWEVER, WHILE SOMETIMES IDENTICAL OR ANALOGOUS, WERE SOMETIMES DIFFERENT. I WONDERED WHETHER IT MIGHT NOT BE POSSIBLE TO CLARIFY THE CAUSES OF SUCH SIMULTANEOUS HARMONIES AND CONFLICTS BETWEEN THE ARCHITECTURAL HABITS OF EAST AND WEST IN THE CONSTRUCTION OF BUILDINGS DESIGNED FOR THE SAME RELIGIOUS PRACTICE—THE WORSHIP OF RELICS. IN SEARCHING FOR THE ANSWER TO THIS RATHER SPECIAL QUESTION I SOON DISCOVERED THAT I WAS WORKING ON AN ESSENTIAL PROBLEM, NAMELY, HOW IT HAPPENED THAT

the Byzantine church (I mean the building) differed so from the Latin church of the Middle Ages.

Since the handbooks give no answer to this question—indeed, do not even suggest it—I tried to carry through the investigation. It is in fact upon Byzantinists that this task must fall, for it is to these scholars that must be addressed the question why it is obligatory for the Byzantine landscape (like that of an Islamic country) to present cubical buildings with domes, while everywhere in western Europe we see that mediaeval churches are long buildings crowned with steep-ridged roofs, sometimes preceded by towers (FIGURES 1, 2). And then why, at Rome and in so many Italian cities, and elsewhere in Europe

FIG. 1 (below). The old Basilica of St. Peter at Rome, predecessor of the present church, showing the two round mausoleums.

FIG. 2 (right). Interior of the Church of St. Sophia, Constantinople.



as well, do the dome and the central plan, when they appear with the Renaissance and the Counter-Reformation, seem to hark back to the habitual types of Byzantine architecture? Why do these periods of a return to Roman antiquity bring with them a Christian architecture which evokes that of the Byzantines, who are usually looked upon as rebellious to the Roman tradition?

I shall try to give a partial answer to these questions, or rather to the single question of when and why the Christian architecture of East and West adopted different forms. I cannot here offer a complete or final answer, but instead I shall indicate certain evidences which have emerged from an application of the functional method which, in explaining a monument such as a Christian edifice, or any series of architectural types or forms, constantly takes into account the religious, cultural, and liturgical functions of a building or series of buildings. In this way it is made plain that plans, roofings and interior dispositions are bound up with particular kinds of religious functions, and that consequently, in order to explain the forms of these buildings, it is necessary to trace the evolution of an architectural type within a whole series of buildings which were consecrated to the same religious function.

IN THE BEGINNING, that is, during the oldest Christian period, in every country won by Christianity, there appear simultaneously two great categories of cult edifices. Some of them take the form of the basilica, a rectangular hall

with one or more often three aisles; this hall terminates in a niche or apse and is covered with a timber roof (FIGURES 3, 4). Others show a vaulted "central" plan, square, cruciform, circular or polygonal (FIGURE 5). Buildings of the first class are almost always devoted to eucharistic celebrations and to all the liturgical meetings of a Christian community as a whole. Those of the second category are always shrines of martyrs or baptisteries.

For a Christian of antiquity, regardless of the country or province in which he lived, the founding of a *martyrium* or of a baptistery called for a building with a central plan, covered with a vault (preferably a dome), while the founding of a church for ordinary worship did not suggest the use of this type of plan and roofing, but of an elongated rectangular plan and of a roof (and ceiling) of timber.

One will notice first of all that the use of the vault—sometimes supposed to have been "invented" rather late in Christian history, or "imported" from a more or less remote Asiatic East—was in fact, neither unknown to nor discarded by the oldest Christian architects, whether they were Latins or Greeks, Copts or Syrians. They even employed it quite as a matter of course, using the dome among other forms. But they adopted the vault or the dome (just as they adopted the circular, polygonal or cruciform plan) only in certain rather specific conditions, namely, when they were commissioned to build a baptistery or a *martyrium*. As a rule, they declined to use a vault

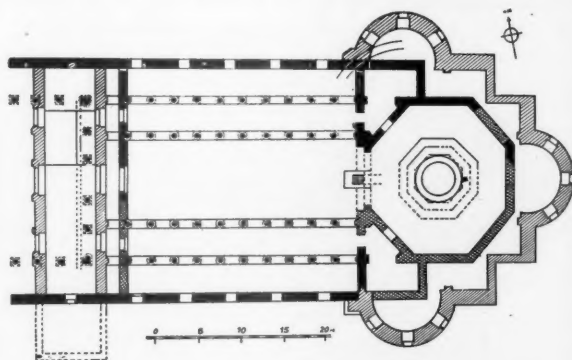
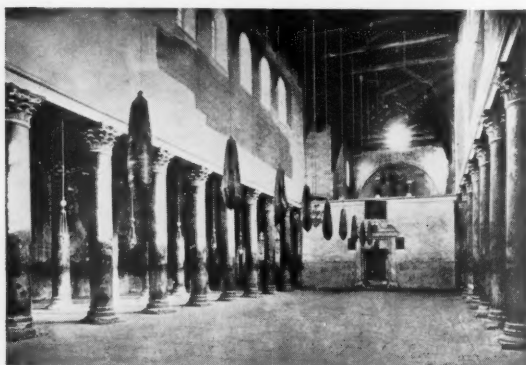


FIG. 3 (left). Interior of the Constantinian Basilica of the Nativity, Bethlehem. From N. P. KONDAKOV, *Archaeological Researches in Syria and Palestine*.

FIG. 4 (right). Plan of the Constantinian Basilica of the Nativity, Bethlehem. Construction shown in black and in cross-hatching is of the fourth century; diagonal hatching indicates sixth-century work.

for sanctuaries destined for ordinary eucharistic worship.

Every country displays parallel examples of this double tradition, with a rather strict distinction between the functions of the buildings. The exceptions, which are quite rare, are baptisteries or martyria to which the architectural characteristics of ordinary churches were added; but in some of these cases, at least, the anomaly may be explained by adventitious and local circumstances. Egypt may be cited as a particularly striking example. Here the church building itself is only given vaulting beginning with the eleventh century. Nevertheless the mausoleums of Bagawat in the Great Oasis, and the friars' chapels at Bawit and Sakkara, are proof that beginning with the fourth or fifth centuries the Christian artisans of Egypt were perfectly capable of constructing barrel vaults and domes resting on squinches or on pendentives, and sometimes of vaulting the whole of quite large buildings. The two traditions live side by side and do not mingle.

The same is true elsewhere. The rotunda of the Holy Sepulchre and the octagon of the Church of the Ascension, at Jerusalem (FIGURE 5), date back to the same period as the neighboring basilicas of the Anastasis and of the Nativity. At Constantinople, the two vaulted rotundas of the Church of Sts. Karpos and Babylas and of the Church of St. Euphemia date from the same period as the basilical halls of the first Church of St. Sophia and of the Church of St. John of the Stoudion. In Italy, the Church of Santa Costanza at Rome and the Church of San Lorenzo at Milan, and the baptisteries of Ravenna and Naples, are not of later date than the ancient Christian basilicas, both great and small. In the Balkans, in Gaul, in Spain and in Africa, we find the same double series.

In other words, during the oldest Christian period, every Christian architect firmly respected the tradition which established a close and narrow link between the function and the principal forms of cult buildings. Architects everywhere knew that the central plan and the vault (or the dome) were the forms which were fitting for baptisteries and for martyria.

Space does not allow me here to attempt to study the origins of this usage and the pagan antecedents of our two categories of Christian monuments which adopted the radiate plan and

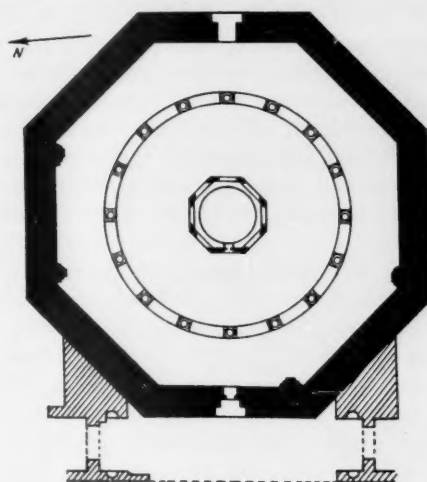


FIG. 5. Plan of the octagonal Church of the Ascension, Jerusalem.

the dome. It is only the consequences of these origins that concern us in this article. We need bear in mind only the result which I succeeded in reaching in a recent monograph (*Le Martyrium* Paris 1946), namely, that all the types of plans which we meet in the martyria and the baptisteries belong to the common funerary architecture, both pagan and Christian, which was current in the Roman Imperial period. We must likewise remember that this same mausoleum architecture was systematically connected, for centuries, with vaulted roofing and especially with the dome; vault and dome are of permanent materials as often as possible, but may be imitated in wood, for the thing that counts is not the material but the curved or hemispherical covering which suggests the canopy of heaven. It is no less certain that it is by the most direct functional road that this traditional style of sepulchral architecture passes over to the Christian mausoleums and martyria (which are the mausoleums of the saints) as well as, derivatively, to the baptisteries in which the old Adam was to die in each convert before his resurrection from the dead in a new life.

Regardless of the origin of this ancient Christian architecture, what concerns us is the considerable extension, in the art of this time, of domed buildings of central plan, and the use of this form, in identical conditions, in all the Christian countries of East and West. During this epoch there is no question of separation of any kind, in the domain of religious architecture, between the two

parts of the Christian World. But we already see signs of a certain regional particularism which will prove significant for the future. First let us recall that the custom of building monumental baptisteries, as special edifices, faded away in rather quick and final fashion in all the regions of the Christian world, although with varying speed according to the country. Baptistry architecture was doomed from the moment when adult converts gave way to children at the baptismal font. It is by pure conservatism that in mediaeval Italy baptisteries of the familiar ancient Christian types continue to be built; elsewhere in the Middle Ages the mystery of baptism is given for its setting a rather modest room on the periphery of the church, a place in which nothing in the architectural form indicates the presence of a baptismal chamber. The architecture of the baptistry thus will have no influence on the monumental art of the Middle Ages, either in the East or in the West.

On the other hand, shrine-sanctuaries in which precious relics were devoutly kept and worshipped

Palestine, a land dear to Christendom at that time, these buildings sheltered not only the remains of martyrs' bodies—as they did everywhere—but also and above all contained relics of Christ and of Our Lady. These relics were not "holy remains," but "holy places," that is objects and places which had been in contact with the Lord during His earthly career, such as His empty tomb; or the summit of Golgotha where He died, and the Mount of Olives where He set foot for the last time; and then the grotto of the Nativity, the place where He received baptism, the spot of the Transfiguration, or the scene of some miracle or famous sermon. For the Virgin, too, besides the empty tomb there were the chamber of the Annunciation, the room of the Dormition, the spot of the Visitation, and so on. Moreover, these "holy places" of the Gospel had as their counterparts biblical holy places, some of which must have been consecrated by the Jews, such as the oak of Mamre or the Well of Jacob (FIGURE 6) and the spot where Joshua crossed the Jordan.

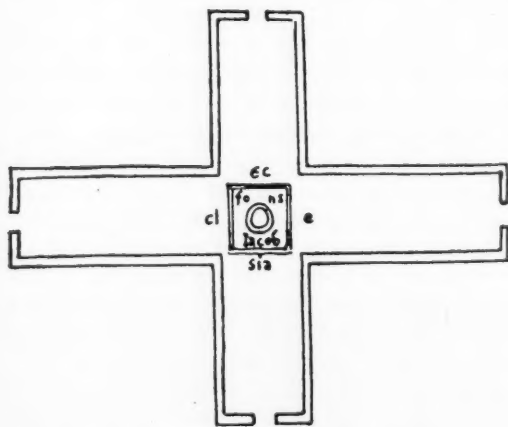


FIG. 6. Plan of the martyrion built over Jacob's Well at Sichem, according to the Frankish Bishop Arculf, who made a pilgrimage to the Holy Land at the end of the seventh century.

were very important. Conditioned as we are to view early Christian architecture in terms of the still existing sanctuaries of the European Middle Ages, it is difficult for us to grasp the importance of reliquary sanctuaries in Christian antiquity. Their importance was all the greater because in

THE OUTSTANDING FACT is that the Christian sanctuaries which were erected on or near these "holy places," though they were far from being tombs, nevertheless adopted the usual architectural forms of the martyria which were of universal distribution. And if these martyria took to themselves, with good reason, the traditional types of sepulchral architecture, the *memoriae* of the holy places, which commemorated grottoes, hill-tops, wells or trees, repeated the same forms of the mausoleums. That is hardly astonishing in the case of the Holy Sepulchre, which enclosed an ancient tomb, or for the Tomb of the Virgin, though the tomb there was likewise empty. But we are really astonished to see the grotto of the Nativity and the top of the Mount of Olives set off by vaulted monuments of octagonal plan, or the Well of Jacob dignified by a cruciform *memoria*.

It is obvious that ancient Christian thought assimilated relic-tomb and relic-holy place, and that the architecture which was of sepulchre origin had lost its initial character, which was specifically funerary, in order to be given instead the more general significance of a commemorative architecture, which would in consequence serve indifferently to preserve the memory of a saint's glorious

death, perpetuated by his tomb, and to preserve the fame of a gospel episode which was kept alive by an object of any kind which had witnessed it.

There is no need to stress the tremendous importance of the cult of the holy places in Palestine or the frequency and the universal spread of pilgrimages to the Holy Land. The sanctuaries which were built there between the fourth and the seventh century were, in the eyes of all, the most celebrated and the most holy shrines in all Christendom. But these essential shrines were all situated in the East, and thus it came about that, in eastern architecture, the cult building of central plan, with a dome, found a new and important "market" which did not exist in the West. This of course contributed to the multiplication in the East of sanctuaries of this kind, and increased the prestige of domed buildings of central plan.

One circumstance, in addition, certainly contributed—and this is a capital fact—to draw these commemorative sanctuaries of the Holy Land closer to churches designed for ordinary worship, and to facilitate the transfer, to these latter, of the architectural forms of the *memoriae* of the holy places: These sanctuaries which stood on the very sites of gospel episodes, such as the Nativity, the Resurrection or the Ascension, the Annunciation or the meeting with the Samaritan Woman, invariably honored Christ Himself. They were, over and above the local event which they commemorated, churches dedicated to Christ, just like all the other ordinary churches which were not connected with any holy place and were not *memoriae*. We know, in addition (as in the case of the rotunda at the Holy Sepulchre), that the mass was celebrated there not only on the anniversary of the event commemorated (as was normal in the martyria of saints), but on other days as well, and on every Sunday—all this, of course, in accordance with the usage followed in ordinary churches. This liturgical function of the *memoriae*, when it became generalized, contributed further to obscure the dividing line which originally separated *memoriae* from ordinary churches. It became easier to carry over to the latter the architectural forms of the commemorative shrines, when the celebrity of these churches inspired the faithful to reproduce their plan and elevation in other structures not specifically commemorative.

What is true of the *memoriae* honoring the "holy places" of the career of Christ is equally valid for the Palestinian sanctuaries (very numerous toward the eighth century) which commemorated the places sanctified by the history of the Virgin. Each very often blended with the other. But it is important to emphasize the very considerable role reserved for the Virgin in this respect,

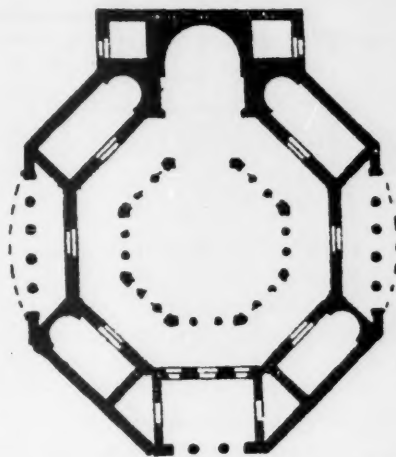


FIG. 7. Plan of the Church of the Virgin on Mt. Garizim.

because we specifically know that a series of sixth-century churches in the Holy Land and in the neighboring regions to the north (dedicated to the Virgin) adopted the central plan and the dome of the *memoriae*. At Mount Garizim (FIGURE 7), at Scythopolis, at Amida, and at Mayafarquin, there are monuments which are octagonal, circular, with four apses, or square, each crowned with a dome. Their architecture is differentiated in no way from martyria or *memoriae*, in spite of the fact that they were not linked with a specific and privileged spot by the presence of a relic of a "holy place" or of any kind of material object connected with the Virgin. *Memoriae* in their forms, all these eastern sanctuaries dedicated to Christ or to the Virgin were already churches of ordinary worship.

At the beginning of the sixth century monuments of this kind must have been frequent in Palestine and in northern Mesopotamia; and under Justinian, toward the middle of the century, they reached Constantinople. Of course St. So-

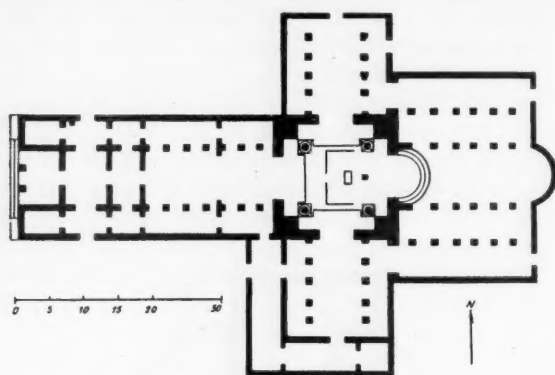


FIG. 8. Plan of the first cruciform martyrion of St. John at Ephesus, before the rebuilding of Justinian.

phia, which is a church dedicated to Christ, is the perfect example of this category, but a reading of Procopius will prove that in the reign of the same Emperor domed churches of central plan frequently replaced older churches of basilican plan with wooden roofs. About the year 550 these readjustments of traditional basilicas to the types which had grown out of the special formulas evolved for the martyrion and *memoriae* must have been very common.

WE ARE THUS in possession of a first group of facts which contributed to this transformation, and we see the reasons which made it begin in Palestine. But it was not only the *memoriae* of the Holy Land, important though they were, which in the ancient Christian East represented the oldest category of vaulted buildings of central plan. There were also the martyrion, that is, the sanctuaries with caskets in which reposed the bodies of martyrs. And if the *memoriae* associated with Christ and the Virgin were all without exception situated in the *pars orientalis* of the Christian world, and there found their natural sphere of influence, the East also took pride in having possessed and venerated, from very ancient times, an immense number of "holy bodies." All cities of any importance gloried in the relics of their local martyrs and in sanctuaries in which they were objects of intense cults. From the fourth century on, and especially from its second half, these martyrion outshone most other churches, and many of them were outstanding works of art.

Unhappily, most of these buildings have perished, but recent excavations have recovered for us the plans of martyrion at Ephesus (FIGURE 8), Constantinople, Antioch, Korykos, in the Crimea, and elsewhere. Ancient descriptions add to these the martyrion of Chalcedon and Cappadocia. Thus we are now in a position to judge the architecture and the interior dispositions of this category of monuments. In particular we can state that the great majority of them exhibited central plans of all types, with masonry domes or wooden imitations of them. Even more, we know now that many of these martyrion were buildings of very considerable dimensions and that they even, in their size and beauty, surpassed the churches designed for ordinary worship to which they were originally merely appended.

These martyrion were of course special buildings, entirely autonomous and merely adjacent to the ordinary churches. This point is very important; for it means that the body of the martyr lay in a special mausoleum, of established type, and not in the interior of the church. Thus the extension of the cult of a relic of this kind in no way affected the evolution of the basilica, but was specifically connected only with the evolution of the martyrion-mausoleum. And above all, any phenomenal growth in the cult of a martyr's body, which usually involved an enlargement of the sanctuary containing the casket (which had to be adapted to the necessity of receiving crowds of the faithful), did not cause the disappearance of the mausoleum-martyrion and its integration into a spacious basilica, but only a simple enlargement of the central-type building itself.

This, I repeat, is a capital point, because this method saved all the architectural types of the primitive martyrion well into the Middle Ages and permitted their forms to be reproduced by the builders of the mediaeval churches; and because, again, the great flowering of the cult of relics helped, in the East, to popularize the different types of central-plan shrines with vaulted roofs and thus to maintain through the centuries the prestige of this type of monument.

We know, furthermore, that as early as the close of the fourth century, and then in the fifth, many of these sanctuaries containing caskets (and probably all of the important ones) were progressively assimilated in their function to ordinary

churches. The mass began to be celebrated regularly in them, and baptisteries were added as annexes in the outer parts of the buildings. Liturgically, these martyria were thus blended with ordinary churches. To increase still further their points of similarity with such churches, the mausoleums which were shrines of saints were placed in the interior of cities, not merely without the walls, as in the beginning. It is certain that this process began in the fifth century, that is to say, before the same thing was done in western Europe. Finally, it is probable that the custom of dividing up the bodies of saints and of dispersing fragments of relics, in the Asiatic provinces, also helped in the moving of the martyria of the saints into the interior of cities. All churches possessing these relics were and at the same time were not sepulchral shrines; and the sanctuary, in a real cemetery at the gates of a city, which originally contained the real and unique tomb of the saint, was no longer distinguished from other churches dedicated to the same saint which possessed a tiny fragment of his relics.

This leveling has undeniable importance, architecturally, because the numerous churches named for saints which were built in the interior of cities in Syria, Asia Minor, and Constantinople, beginning with the opening of the sixth century, were already churches and not simply commemorative martyria. But they reproduced faithfully the different types of plans established for mausoleum-martyria, and adopted their vaults and their domes.

In other words, the history of the *memoriae* of the Holy Land, and that of the martyria of holy bodies in the East in general, jointly promoted, though in different ways, the preservation and the popularization of the cult building of domed central plan, and the spread of these architectural forms to ordinary churches. Moreover, in contrast to what happened to the comparable architecture of the ancient Christian baptisteries, which disappeared with the last monumental baptisteries, in the Christian East the architectural types of the *memoriae* and the martyria survived these buildings themselves, once they had been transferred to churches designed for ordinary worship.

Thus, from the architectural point of view, these churches, beginning with the sixth century, are simply reproductions of the various well-established types of martyria or *memoriae*. Created with a view to a specific religious function, these

types were handed over to sanctuaries which had a different function—that of the ordinary church—while at the same time the latter progressively abandoned the basilican forms which thus far had been peculiar to them. It is well known that the mediaeval Byzantine Empire practically abandoned the use of the basilica with a wooden roof, and that in consequence it also gave up the simultaneous use of the two parallel traditions, that of the basilica and that of the domed central plan. It was the latter tradition alone which was maintained in the Byzantine Empire and became the predominant one down to modern times (FIGURE 9). The influence of Neoplatonic ideas (through the writings of Pseudo-Dionysios Areopagitica and his school) had surely contributed to the success of the type in its use as an ordinary church by considering it as an imitation of the Universe.

LATIN ARCHITECTURE, AS HAS JUST BEEN said, did not develop in the same way as that of the East. It did not adopt the forms of the martyria for ordinary liturgical churches, and remained faithful to the traditional basilica throughout the Middle Ages.

Naturally we would like to know the reason for this divergent attitude, which was destined to cause a progressive increase in the differences be-

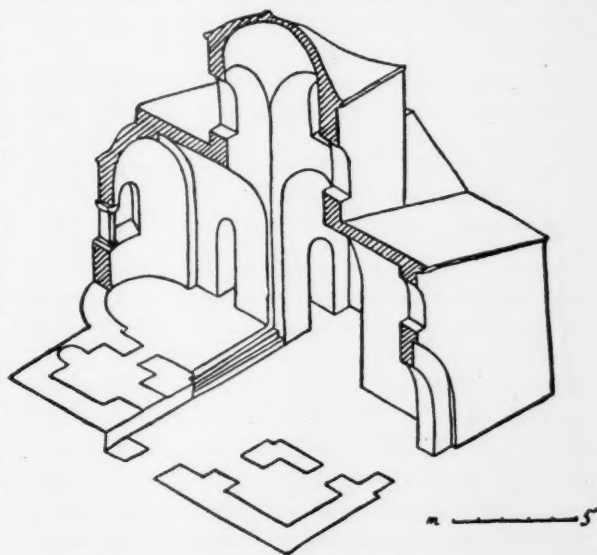


FIG. 9. Sketch of the elevation of the Church of "Hosios David" at Thessalonica, probably actually a martyrium of the prophet Zacharias, dating from the fifth century.

tween the two branches of Christian architecture, and at the same time was to put western architecture on the road to its brilliant future development.

The attitude of the easterners, we have seen, can be explained in part by local factors which did

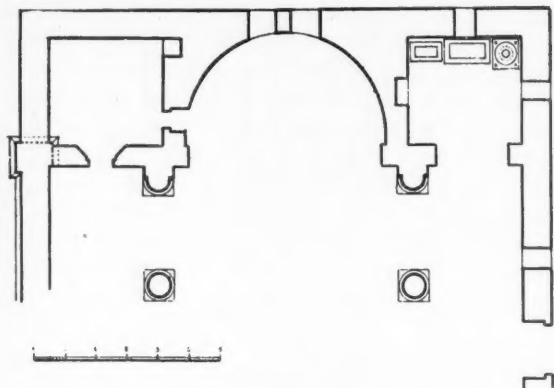


FIG. 10. Plan of the apse of the church at Qal, at Kalôta in Syria, with a martyrion in the chapel on the right. From J. LASSUS, *Sanctuaires chrétiens de Syrie*.

not exist in the West. It is sufficient to recall, for example, the existence in Palestine of the "holy places," with their *memoriae* associated with Christ and the Virgin, and the inspiration which the architecture of these shrines could furnish to the builders of ordinary churches in neighboring lands; or to recall the employment of independent buildings for the preservation of martyrs' bodies and the custom of dividing up relics, with all the consequences which these practices might have in the bringing together of martyrion and churches.

The Latin countries did not have to undergo the influence of such factors, which were essentially oriental, and one might deduce, from that, that the basilica remained predominant in the West because the factors which determined the evolution of the churches of the East simply did not intervene here.

That of course is right. But, then one must still explain why the same cult of holy relics which, in the East, contributed so deeply to the success of the forms of the martyrion in mediaeval church architecture, did not have the same effect in the West. Even a rapid survey of the archaeological evidence suggests an answer which seems to me

to be the more plausible because it appears to be confirmed by proof of quite a different character.

The testimony of the disposition of the choir in ancient churches, and the evidence to be gathered from inscriptions and literary sources, all go to prove that the custom of placing relics (either whole bodies or fragments or *brandea*) either beneath or within altars was adopted in all Christian countries at an early time. It became general beginning with the fourth century, though the Latins adopted this rule not only for each altar, but for each holy body. For the westerners, the placing of relics in a church was governed by the desire to maintain a compelling link between the relics and the altar. On the other hand the easterners, while they too provided their altars with relics, often set aside special rooms of various kinds for other relics (notably for the whole bodies of martyrs which were the most important of all), rooms which often had no relation at all with the altar of the church (FIGURE 10).

How is this difference to be explained? I believe that the answer is to be found in the famous passage of the Apocalypse which seems to require specifically that the tombs of saints be located under the altars of churches: "I saw under the altar the souls of them that had been slain for the word of God and for the witness they had borne" (VI, 9). It would seem that this is the only scriptural text which directly ordered that the relics of the holy martyrs ordinarily be given a place below the church altars. This text, binding for the Latins, was not obligatory for the easterners in early times, because the eastern churches at this period had not yet recognized the Apocalypse as a canonical book.

In any case, the archaeological facts are explicit. In the East, for example in Syria, in Asia Minor (at Myra), and at Constantinople, there are quantities of positive examples in which the holy body is laid either in a building wholly independent of the church itself or in a lateral chapel close to the choir but outside of it. At the same time, in all the countries of the West, the relics are closely linked with the altar of the church; they are in the choir or beneath the choir of the church itself, and consequently within the axis of the building, in its apse. In other words, in contrast to what happened in the East, the martyrion here is not a special building; it belongs to the church and

nearly always, in the basilica, is in the choir. It becomes a part of the church.

At first sight, then, the architectural dispositions surrounding the holy body do not entail either the construction of a special building distinct from the basilica, or the replacement of the basilica by types of central plan buildings which were proper for independent martyria. In the West, the basilica will remain, and it is only the choir—the place where the relic is preserved—that will undergo numerous and radical transformations in order to provide for the cult of the holy bodies which are placed in that part of the church. In short, while in the East the cult of relics resulted in the church which adopts the plan and elevation of the former martyrium, with central plan and dome, the same cult in the West has no less potent an effect on ecclesiastical architecture, but only affects the choir of the basilica, because only choirs were martyria.

In its turn, the choir undergoes complete changes, and it is enough to compare the apse of an early Christian basilica with the apse of a Romanesque or Gothic church to realize this. Whereas in each case the naves have not experienced any essential change (save in the Gothic roofing and supports), the original apse becomes unrecognizable. The choir is often raised higher because of the confessional which is established under its pavement. It is placed over a subterranean crypt of greater or less extent. It is surrounded by a deambulatory, and this latter leads to a crown of chapels built along the outer wall.

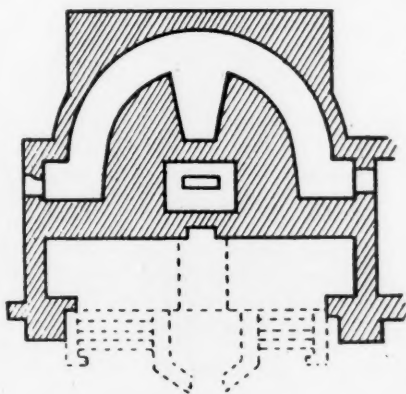


FIG. 11. Plan of the crypt of the Church of St. Praxede, Rome.

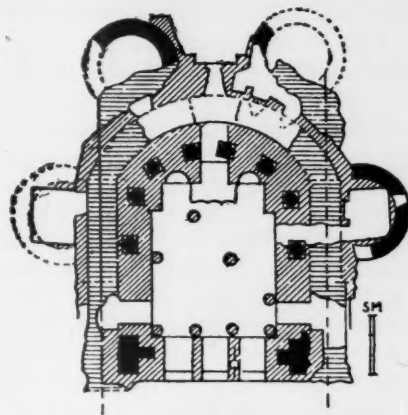


FIG. 12. Plan of the crypt of the Cathedral at Clermont-Ferrand, with radiating apses and deambulatory.

Finally, all these dispositions, produced by the presence of the cult of a holy body in the choir, lead to an increase in the size of the choir itself: it is enlarged and lengthened toward the East and, in addition, there are joined to it round or square sepulchral chapels in which the mighty ones of this earth have themselves buried *ad sanctum*.

These transformations take place between the sixth and tenth centuries. Thus at the very beginning of the Romanesque period the Latin church, while it remains basilican, exhibits its chief original feature in this novel type of apse which owes its originality and its finest elements (small radiating apses, deambulatories, crypts) to the creative influence of the cult of the relics enshrined in the choir (FIGURES 11, 12).

WE THUS COME TO THE CONCLUSION, WHICH I would sum up as follows: In the East as well as in the West the same cult of relics tended in a decisive manner to determine the average type of the mediaeval church. But instead of unifying their characteristics, it favored a progressive differentiation between them. The East selected, for ecclesiastical buildings, the martyrium derived from the mausoleum or *heroon*. The West took its inspiration from the same antique models, but applied them only to a new arrangement of the choir, considered as a martyrium, and left unchanged the basilican nave.

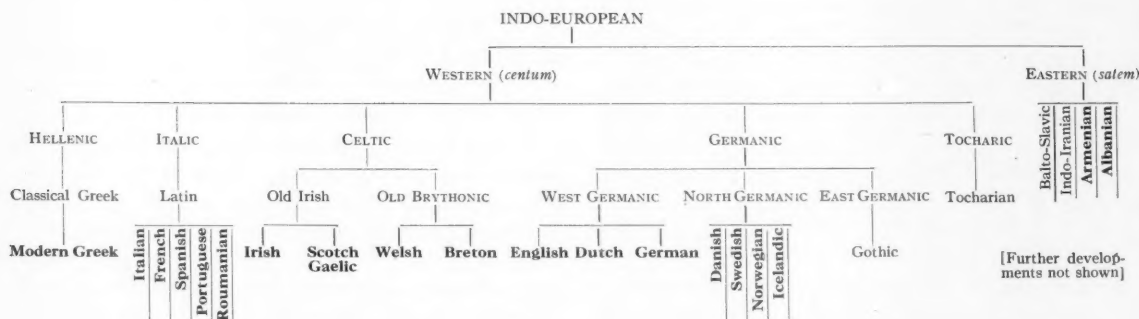
A final word needs to be said on the reappearance in the West of domed central-plan structures

during the Renaissance and the Counter-Reformation. In fact, we can see at that time all the types of buildings which at first belonged to the architecture of the martyria, later characterized the average Byzantine church, and now appear in the western European church. At one time a suggestion was made as to Byzantine influence on Renaissance architecture, and STRZYGOWSKI believed in an Armenian model for the St. Peter's of Bramante and Michelangelo. In reality the Renaissance architects, when they set themselves to imitate the Roman monuments of the Imperial Period, rediscovered among those models the same types which, ten centuries earlier, had inspired the builders of the martyria, the *memoriae* and the baptis-

teries. As a consequence they copied the same types which, through the medium of early Christian sanctuaries, had later passed into mediaeval Byzantine architecture.

The Roman Renaissance and the Byzantine Middle Ages thus meet again, going back to common archetypes which were created in the old Roman Empire. The Renaissance brought them to life again, by an individual effort to renew antiquity. The Byzantine Middle Ages, much earlier, had renewed the same models, though not so consciously and for liturgical reasons. Both had conceived of the domed and centrally planned building as an imitation of the Cosmos.

REVIVAL OF GAELIC



Inferred languages are shown in CAPITALS AND SMALL CAPITALS

Languages historically known but not in current vernacular use are shown in roman type

Languages currently spoken are shown in **boldface type**

Intensified efforts to revive Irish as the national language of the new Republic of Ireland have occasioned discussion of the nature of this language and its relation to English and other contemporary languages of western Europe. The accompanying diagram is a simplified scheme of the genealogy of the Celtic languages, as members of the Western branch of Indo-European, and their relation to modern languages descended from this branch.

The nature of Celtic was little understood until well into the nineteenth century, because of a complicated phonology and consequent disguise of the original form of the language. It was long regarded as a non-Indo-European language with extensive borrowings from Indo-European. Only with discovery of the key to restoration of lost inflectional endings was Celtic recognized as an Indo-European language. — PAUL W. PETERSON

ARCHAEOLOGICAL NEWS

Japanese tumuli

"Now that General MACARTHUR has raised all taboos in Japan, the archaeologists of that land are at last about to fulfill their great suppressed desire to excavate some of the huge tumuli of central and western Japan. Denied the richest fruits of archaeology in their native land, Japanese archaeologists for many years had turned their attention to neighboring areas of the continent, where they did much excellent work. Most of the archaeological work done in Korea and Manchuria and a great portion of that done in Inner Mongolia and North China was carried out by Japanese archaeologists. But now these men have all been repatriated to Japan where they are championing at the bit in their eagerness to conquer new archaeological worlds.

"The archaeological record, so far as we know it already, indicates that the historical Japanese state was founded by invaders from Korea moving into Japan in the first few centuries A.D. These invaders were mounted horsemen who may have wandered to Korea from much further afield in Northeast Asia. They brought with them a mixed bronze iron culture which they superimposed on the late neolithic cultures already in Japan. Their tumulus burials as well as many of their artifacts show strong associations with the cultures which stretched from Europe across northern Asia, but their bronze mirrors and some other objects indicate also close associations with Chinese culture.

"The great tumuli which are found largely in northern Kyūshū and the old capital area (around Kyōto, Nara, and Osaka) were never excavated because they were considered, and possibly quite correctly, to be the tombs of the ancestors of the present ruling house. The largest of these tumuli are said to be the largest man-

made mounds in the world. The few tumuli which have been excavated were small ones which had been overlooked and were only accidentally opened up in connection with road construction or the like. It is believed that scientific excavations of some of the larger tumuli will add immeasurably to our knowledge of the early history of Japan and of the whole mixture of north Asiatic and Chinese elements that went into that land in early days. Some very interesting things may well be found, comparable to the famous golden antler-like crowns of south Korea which date from much the same time. In any case, excavations of this sort would give a positive emphasis to our present rewriting of Japanese history for the school books and would make it something more than a mere lopping off of the first thousand years of traditional history.

"The present plan is to excavate the so-called tumulus of the Emperor Nintoku, who probably reigned about 400 A.D. It is located near Osaka and is the largest of all the tumuli. There is, of course, a strong possibility that it has been rifled, but if there is any land where tradition would prove stronger than man's predatory instincts that country is Japan. It is reported that PRINCE TAKAMATSU, a younger brother of the Emperor, will be the titular head of the project. PRINCE TAKAMATSU is particularly interested in archaeology and his headship would give sanction to this meddling with the bones of his august ancestors.

"The Japanese archaeologists have told me personally that they would be delighted to have the cooperation of foreign scholarly groups in this project. They would certainly welcome the participation of American archaeologists in the work and American co-operation in publication, and, with even more stringent austerity program we have recently agreed for them, it

may prove impossible for them to finance an undertaking of this magnitude without some financial aid from the outside."

— EDWIN O. REISCHAUER

Egyptian letter

Thanks to Mr. EDWARD W. FORBES we transcribe two paragraphs of a letter from Mrs. JOSEPH LINDON SMITH, dated March 16, 1949, containing current news from Egypt where the SMITHS were spending the winter and spring:

"JOE had a particularly happy season of painting at Luxor and for nearly half of our stay we were the guests of the Egyptian Government in a house formerly used (and built) by an American expedition on the Theban plain. Now the Ministry of Education is using one of the buildings under the name of 'Luxor Art Studios' for Government Art School graduates to come to and give them an opportunity to be near the great monuments of antiquity by being housed within easy walking distance of many of them. This is one of the fine projects being done by the Egyptian Government for the benefit of Egyptians that foreigners hear too little about. JOE and I were very fortunate in being invited by the Ministry as guests, and it was an interesting experience. His pupils were there, and painted in the same tombs where he was at any given time. We enjoyed being once again a part of the village life of the Nile Valley, getting up before the sun, and going to 'our' tomb in the delicious freshness of early morning, and over the rocky mountain tops, green fields and temples (to the right and left of us) was a light that is Egypt's specialty. And it was a pleasure to see so much of Egyptians, members of their antiquity department and local dignitaries. . . .

"During our stay at Thebes,

KHALID BEY DARWISH, who is the engineer-architect in charge of restorations being done at the Ramasseum, uncovered in the region of the great seated Colossi of Memnon, but back of them, nearer the desert Gebel, two great statues over ten metres in height, standing figures, with inscribed bases. They were of the same Pharaoh as the Colossi, Amenhotep III. When found, they were only about six metres below the surface, lying on their sides facing north. One of them was badly broken with the head a wreck, but the other was intact (except for the feet) and the head and features in perfect condition. It was a great find! Also ZAKARIA GONEIM, who is Chief Inspector of Antiquities for the Luxor district, found a number of Sphinxes, in front of the great pylons at the entrance to Luxor Temple, which showed this end of the Avenue of Sphinxes that in ancient times was known to have connected Karnak and Luxor Temples. JOE and I interested MAX BOYD, head of the A.P., to see ZAKARIA and get a story from him about the Sphinxes and also KHALID BEY about his statues. I hope both news items reached the American press to inform our Americans doubting Thomases that the Egyptians are doing many worthwhile things. And it's time that some credit be allocated for same."

Greek Fortress at Gela

"A discovery of great interest for the history of Classical Greek architecture and for the history of the Greeks in Sicily is reported by Dr. PIETRO GRIFFO, Soprintendente alle Antichità, Agrigento, in *Sala d'Ercole*, 2.7-8 (January-February 1949), pages 19 and following. In 1948, farmers struck an ancient stone wall in Contrada Caposoprano west of modern Gela. Excavations undertaken by Dr. GRIFFO revealed, hidden under the sand dunes of the shore, an imposing rectangular fortification built in an unusual mixed technique of ashlar masonry and mud bricks. The south-

west corner of the fortress was uncovered and its southern wall has been traced for a length of some 140 metres.

"A trial pit along this wall showed that at one point the lower part of the wall was constructed of sandstone masonry reaching a height of at least 3.60 metres and that this foundation was surmounted by a well made mud-brick wall not less than five metres high. In the short stretch of the western wall that has been uncovered, there appeared a postern gate with a 'false' pointed arch, which GRIFFO compares to the arches of the Greek fortifications of Acarnania. Future campaigns may indicate whether the new structure was a separate fort guarding the shore or was joined to the defensive system of the city of Gela. Dr. GRIFFO suggests a date in the fifth or the fourth century B.C.

"While it is generally thought that mud brick was extensively used in ancient Greece and in ancient Italy, surviving examples of mud-brick walls from these countries are very rare. The 'mixed' technique of the structure throws an entirely new light on Greek experiments with structural techniques. Both the substructures of sandstone and the superstructures of mud-brick are handled with great precision and competence. In view of the long tradition of mud-brick building in Phoenicia, the question of Carthaginian influence will have to be considered. The excavator is to be congratulated upon the care employed in the excavation and the prompt measures taken for the protection of the perishable mud-brick walls.

"The discovery will undoubtedly lead to an interesting discussion of the historical events which led to the construction of this imposing fortress. It is tempting to assume that it was erected during the great period of Gela, between 466 B.C., when her exiles returned from Syracuse, and 405 B.C., when Gela was sacked by the Carthaginians. It was in this period that Gela was visited by Aeschylus, who died there in 456 B.C.

Subsequently, the Geloans helped Syracuse defeat the ill-fated Athenian expedition to Sicily in 415 B.C.

"Dr. GRIFFO expresses the hope that means may be found to continue the excavation, a hope in which all archaeologists and historians interested in Classical Greece will concur."

—GEORGE M. A. HANFMANN

Hebrew Scrolls

We have reported (in *Archaeological Newsletter* No. 9, June 7, 1948, page 64) the discovery, by Beduin smugglers, of a number of Hebrew scrolls in a cave in the Judean desert, near the Dead Sea. Four of these came into the possession of the Syrian Orthodox Convent of St. Mark in Jerusalem, whose Metropolitan entrusted them to scholars of the American School of Oriental Research, Jerusalem, for publication. Others (seven?) had been acquired by Hebrew University, Jerusalem. Ranking Biblical experts in this country have declared that the scrolls were written about 100 B.C. or earlier, which would make them, by a thousand years, the earliest of all Hebrew manuscripts known.

Several students have now attacked this evaluation of the scrolls; Professor SOLOMON ZEITLIN of Dropsie College, Philadelphia, writing in the *Jewish Quarterly Review* for January, suggested that they were mediaeval in date, and other scholars have declared them a hoax.

However, excavations by GERALD LANKESTER HARDING at the cave where the find is alleged to have been made, near Ain Fashka, yielded fragments of late Hellenistic pottery and numerous torn scraps of vellum and papyrus manuscripts, indicating that some find of the sort had certainly been made there; ELEAZAR L. SUKENIK, Professor of Palestinian Archaeology and Director of the Museum of Jewish Antiquities at Hebrew University, who recently brought five of the manuscripts to this country for laboratory examina-

tion, states that the original jars in which the scrolls were found are in Hebrew University's possession; and F. W. ALBRIGHT of The Johns Hopkins University, who has now examined most of the originals, has reiterated his conviction that there can be no doubt about their age and authenticity. They owe their astonishing preservation to the manner in which they were prepared for storage, wrapped in cloth which was impregnated with a waterproofing of bitumen and wax, and placed in sealed earthenware jars.

As we go to press, an Associated Press despatch reports that plans are being made to put the four scrolls which belong to the Convent of St. Mark up for auction in this country.

Appointment

Harvard University announced recently that Dr. Sterling Dow, Professor of History and Greek since 1946, has been appointed John E. Hudson Professor of Archaeology. The Hudson Chair was established in memory of a former President of the American Telephone and Telegraph Company, who began his career as a tutor in Greek, Latin, and Ancient History at Harvard. The liberal terms of the bequest permit the variety of graduate and undergraduate courses which Professor Dow has taught in recent years, including the period (1946-1948) when he was President of the Archaeological Institute.

Bibliography of Ancient Drama

The Istituto Nazionale del Dramma Antico in Rome, in addition to its activities in presenting performances of classical plays, has compiled a classified bibliography of all publications concerning the ancient theater which appeared between 1900 and 1940. The bibliography includes press notices and popular writings as well as scientific publications. It is expected that the material when printed will form a volume of about 400 pages, the price of which will not exceed 3500 lire.

Since the edition will be limited, the publishers wish to know how many copies to reserve for distribution in the United States, and it is suggested that institutions and individuals interested in ordering copies communicate with Dr. GIULIO PELA, Via Giustini-ani 5, Rome, Italy.

Worcester Accessions

The April, 1949, number of the Worcester Art Museum *News Bulletin* pictures and briefly describes three recent accessions in the field of Mediterranean antiquities, one of which is



Syrian glass pendant, about 500 B.C.

a small (1 3/16" high) glass pendant in the form of a bearded male head, the gift of ALEXANDER H. BULLOCK. The head, most reasonably of Syrian or Phoenician manufacture, was modeled by hand and the details were rendered by applying pellets or strips of colored glass paste; the flesh is deep yellow, the eyebrows, hair, and beard are bluish-black, and the eyeballs and earrings are white. The suspension ring has disappeared. The Museum suggests 500 B.C. as the approximate date; the great staring eyes will remind some of the far earlier sculptures of Mesopotamia, particularly those of Khafaje.

Spy Plot?

Under such headlines as "Noah's Ark Search 'Unmasked' by 'Pravda' as Spy Plot by West," metropolitan newspapers on April 13 delightedly printed charges by official Russian commentators that an expedition to eastern Turkey, planned for this summer by British, United States, and Dutch archaeologists, is really an espionage project.

The announced goal of the expedition is Mt. Ararat, where local farmers are said to have asserted that "petrified remains of what appeared to be a ship had been found in a canyon about two-thirds of the way up to the peak. . . ." The archaeologists are listed as EGERTON SYKES, former attaché of British missions in Warsaw and Teheran, E. AARON SMITH of Greensboro, North Carolina, and HANS ROOZEN, young Dutch student. The expedition was first planned for 1948, and ARCHAEOLOGY has already acknowledged lack of faith (in Volume 1, No. 4, page 223, where we gave Dr. SMITH's name as A. J. SMITH). Mt. Ararat, 16,900 feet high, is near the border of the Soviet Armenian republic.

Pravda, characterizing the expeditioners as "intelligence agents of the Anglo-American military bloc," the story of Noah, the ark, and the flood as "nonsense," and the whole project as a "Biblical masquerade," said "It is only necessary to look at the map to understand the real meaning of the Biblical preoccupations of the Anglo-American imperialists. Under the guise of an archaeological expedition, a group of dyed-in-the-wool spies is heading for the northeastern frontier region of Turkey."

The Russians have overestimated our military intelligence services, if they think we are astute enough to tap an amateur Biblical archaeologist from North Carolina for a dangerous secret mission within sight of Armenia. However, for once we can agree with *Pravda* in part: The scientific results of the expedition will be inconclusive at best.

BRIEF NOTICES OF RECENT BOOKS

The Neolithic Period in Bulgaria, by JAMES HARVEY GAUL. xliv, 252 pages, 7 maps, 69 Plates. Cambridge 1948 (American School of Prehistoric Research, Bulletin 16) \$4.75

Archaeologists specializing in the field of prehistoric research will welcome with enthusiasm GAUL's work, especially now that political situations make it impossible to work in Bulgaria. It is regrettable that this will be the only work we shall ever have from such an able and promising scholar, whose life and activity were cut short by the demands of a cruel war. His untimely death has proved an irreparable loss to the international family of archaeologists, whose members, under the pressure of politics and of a materialistic age, are constantly diminishing.

GAUL's book contains an exhaustive survey of the prehistoric sites of Bulgaria and an excellent classification and discussion of the various artifacts belonging to the Neolithic and Early Bronze Ages unearthed or found thus far and now sheltered in a multitude of museums and collections small and large. His careful exploration of the northeastern section of the Balkans enabled the author to add a considerable number of new sites to those already known and to make available material that was unknown beyond the narrow confines of the section in which it was found.

GAUL's work is characterized by clarity and excellent organization, by lack of dogmatism and wild speculation, by a deep understanding of the problems facing the prehistorian in the Balkans. There is no doubt that his only volume will prove of basic importance to those engaged in the study of the prehistoric period of Europe and a lasting memorial to a scholar who gave his life willingly that others may find it possible to live and work in a free world.

Archaeologists will also be grateful

to the American School of Prehistoric Research for the publication of this monograph and especially to its director and editor, Dr. HENCKEN, on whom was imposed the duty of preparing for publication the unfinished manuscript.

G. E. M.

A Survey and Policy of Field Research in the Archaeology of Great Britain. I, Prehistoric and Early Historic Ages to the Seventh Century A.D. Edited by CHRISTOPHER HAWKES and STUART PIGGOTT. 120 pages. Council for British Archaeology, London 1948 5s.

In this first volume of its survey, the Council for British Archaeology presents a consideration, for the prehistoric and early historic periods, of the present state of British field archaeology and its future direction. The volume gives, first, a period-by-period summary of the present state of knowledge with respect to field research. Secondly, each period is again reviewed from the point of view of the problems now awaiting consideration, and recommendations are made for their systematic investigation.

Such a program is most timely, for post-war reconstruction will inevitably present innumerable opportunities for archaeological work, often under conditions which call for quick action. Speed, without loss of valuable scientific information, will be facilitated by this concise statement of objectives. British archaeologists are to be congratulated on the foresight which began this survey almost before the smoke of war had cleared and on the energy which brought it to completion in time to be of service.

Beginning with the scanty "neolithic" remains, there is in Britain a continuous increase in the material

remains of each successive period until a maximum is reached in the Early Iron Age and the Roman period, and a dropping off in the following periods. As material becomes more copious, local variations become more evident and the main local cultures of the Bronze Age and the Early Iron Age have been well defined, those of the Neolithic period somewhat less so. But for almost every period and every local cultural manifestation the report calls for a closer definition of chronology and especially of the early and late phases and their relation with each other. Also, since almost all the main periods of British cultural history began with the arrival from the continent of new peoples, it is important to establish the phase of the continental culture at which the emigrants left for Britain.

The theme of this report is a call for large-scale scientific investigation at selected sites which promise to solve the most pressing problems set forth in the second chapter. There is ever present the expression of gratitude to the amateur archaeologists, accompanied, however, by a plea for the adoption of the methods of the professional archaeologists who have set a high standard in excavation technique. It is clear that to these full-time archaeologists must fall the task of the large-scale undertakings which are now necessary. In this connection there is made the following statement which should become a maxim for archaeologists, especially for prehistorians working in regions where the broad outline of cultural series is already known: "To have at least one site in each main region of the country excavated totally will now be of more value than merely to sample a number in the same time instead."

SAUL S. WEINBERG

University of Missouri

The Rise and Fall of the Middle Kingdom in Thebes, by H. E. WINLOCK. xv, 174 pages, 48 plates. Macmillan, New York 1947 \$5

WINLOCK always brings to his pages a salty humor and practicality and never wrote a dull chapter. As the title states, this book—except for the final chapter—deals with observations on the Egyptian Middle Kingdom in Thebes and confines itself to a period running from the 22nd to the 16th century B.C. Phenomena of the same period but away from that focal area are only peripheral to WINLOCK's interest. The book stems out of his own excavations at Thebes and is the product of a gifted archaeologist and interpreter of excavations. As the preface states, much of the material was published elsewhere in scattered articles and is now brought together into this consecutive account. With such stated limits, the story has its own integrity, and it is very interestingly written.

The greatest value of the volume lies in the first five chapters, devoted to the rise of the Middle Kingdom through the Eleventh Dynasty, as much of the material is founded upon WINLOCK's personal researches in the Theban necropolis. After the Twelfth Dynasty moved its capital from Thebes to the Faiyum, the account becomes less detailed, and then picks up again in the seventeenth century, when there is again some focus upon Thebes.

In addition to the care with which WINLOCK treats the materials of his personal discovery or observation, the book has value for some of his keen remarks in passing: the possible population of ancient Egypt; the poverty and provinciality of Thebes before it became a capital; the literacy of some of the early priests of the region; and the very slight importance of the god Amon under the Eleventh Dynasty.

A serious problem lies in the thesis of the final chapter, "Hyksos Impor-

tations into Egypt." WINLOCK believes that the historical Egyptian was not experimental or inventive and never changed his way of life unless some outsider forced him to do so. The new elements which he believes that the Hyksos introduced were so important that the influence of the Hyksos movement "on life in the Valley of the Nile is still among the profoundest of all time." WINLOCK lists—flatly or tentatively—the following as Hyksos importations into Egypt: the horse and chariot, the compound bow, metal arrow heads, the sickle and double-handed swords, body armor, bronze to replace copper, the *shādūf* water-sweep, humped cattle, cattle branding, the vertical loom, the blacksmith's bellows, a new kind of razor, earrings, the lyre, and the lute. It is easy to set question marks against some of these items. For example, there is literary evidence for arrows of metal and pictorial evidence of cattle branding some centuries before the Hyksos.

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However, it is the general proposition that everything new must have been introduced from outside and from a single outside source that is so staggering. One grants that the ancient Egyptians tried to maintain status, but it does not necessarily follow that they were inherently stagnant. WINLOCK's argument is a *post hoc, propter hoc* reasoning. We do not quarrel with the ascription of the horse and chariot and of some of the weapons to the warlike invaders; but, on WINLOCK's own statement, the Hyksos were nomads who had come in rapid transit from a homeland somewhere near the Caspian Sea, warlike plainsmen like the Tatars, Huns, and Turks of later times. That such a people should have brought to the sedentary Egyptians the *shādūf*, the vertical loom, the blacksmith's bellows, the idea of bronze, etc., imposes a strain on one's belief. Just because we know so little about the origins and relations of the Hyksos is no reason to make them the really promethean element in Egyptian history.

If the last chapter be taken with a salutary skepticism, this book will serve as a valuable study to a little known period.

JOHN A. WILSON

Oriental Institute, University of Chicago

Troy and her Legend, by ARTHUR M. YOUNG. xvi, 194 pages, 25 plates. University of Pittsburgh Press, Pittsburgh 1948 \$3.50

Troy might well have had as her symbol the Phoenix, rising ever anew from her ashes to a fresh youth. In this beautifully illustrated volume Professor YOUNG has traced not so much the rebirths as the ever-flourishing youth and vigor of the Trojan legend in men's hearts and imaginations. He spreads out before us the whole panorama of the stirring tale of Troy's siege and fall, from that distant vanishing point of origin some time in the second millennium before

Christ to the present. There is the record in literature, from the Greek formulation in Homer and the Cyclic Epics, the Roman retelling of the tale with Aeneas as the focus of interest, the romantic versions of Dares and Dictys with their innumerable medieval descendants until we reach Shakespeare's *Troilus and Cressida*, and finally Christopher Morley's *Trojan Horse*. The vitality of the legend in literature is if anything surpassed by its popularity as a subject for representation in the arts, both major and minor. Over half of the volume is devoted to a running summary of scenes from the legend as portrayed by painter, sculptor, carver, weaver, and musician, from antiquity to modern times.

The imaginative reader will see much to read between the lines of Professor YOUNG's sober guidebook to this vast gallery. Like most galleries it contains some masterpieces, many fine pieces of academic work and much mere mediocrity. As the author well remarks: "The expression of the legend through the ages is a miniature kaleidoscopic picture of the history of the West, the ebb and flow of its cultural life, of its successes, failures, potentialities, and limitations." Homer's epics were the despair of imitators, but the other portions of the story covered by the Cycle were fertile ground for the burgeoning of romantic and imaginative outgrowths from the body of the legend. Tales of Aeneas and Troilus quite overgrew the parent stock during late antiquity, the Middle Ages and even modern times until renewed familiarity with the Homeric original cleared away the rank growth of romanticism.

One would like to see developed the statement that: "Illuminated manuscripts of Homer and Vergil . . . lend continuity of the role of the Trojan legend in the cultural and artistic history of Europe." At that point one might most hopefully seek to bridge the gap between the ancient and the modern artistic tradition. The author has little to say of con-

temporary art, and perhaps the less said the better, since the classical tradition is so thoroughly in abeyance. One might, however, mention that it is still alive in at least one of the minor arts. At Idar-Oberstein, not far from Mainz, I have seen the craftsmen still copying with loving care, in cameo and intaglio, classical designs including Trojan heroes from such sources as *Die Antiken Gemmen*.

LLOYD W. DALY

University of Pennsylvania

Hellenic History³, by GEORGE WILLIS BOTSFORD and CHARLES ALEXANDER ROBINSON, JR. xix, 509 pages, 19 figures in text, 103 plates, 28 maps. Macmillan, New York 1948 \$6

Professor ROBINSON's thorough revision and rewriting of BOTSFORD's *Hellenic History* has won for itself an assured place among the successful textbooks whose aim is to introduce American university students to the history and life of classical antiquity. Most of the readers of *ARCHAEOLOGY* will already be familiar with *Hellenic History*, and it only remains for this reviewer to signal those points wherein this edition differs from its predecessors.

The changes are for the better. Professor ROBINSON has entirely rewritten the chapters on the Persian and Peloponnesian Wars as well as that on Alexander. A new and valuable departure is the inclusion of considerable excerpts of the sources in translation, for example, of Herodotus and Thucydides. This greatly adds to the color and immediacy of the narrative. Professor ROBINSON has also given a chronological table containing the more important dates in Greek history. This table will be a real aid to elementary students. In the next edition it might well be made even more complete. Another very helpful aid is a glossary of more or less technical terms peculiar to Greek civilization, terms with which most

American undergraduates are by no means necessarily familiar. In short, this third edition is a more interesting and a more usable textbook.

The illustrations are now gathered together in the center of the volume. In view of present binding costs, this is probably inevitable. With rare exceptions the plates, thirty-five of which are new, are of excellent quality. (Is it certain that the bust reproduced on Plate 82B is in fact that of Aristotle?) New figures have been added in the text as well as new sketch maps. My chief criticism of this revision is the absence of any good map of Greece, the Aegean area and western Asia Minor as a whole such as that given between pages 2 and 3 of the 1939 edition. Today there is an almost complete lack of adequate historical and classical atlases, and such a map is therefore very necessary, particularly for courses where regular map work is required of the students. The smaller black-and-white reproduction of the former map given on

page 3 of the new edition is quite inadequate.

But it would be most unjust to end this review on a note of criticism. The third edition of *Hellenic History* is a real improvement over its predecessors and deserves the same recognition and success.

CHARLES EDSON

University of Wisconsin

The Architecture of the Old South. The Medieval Style, 1585-1850, by HENRY CHANLEE FORMAN. xiv, 203 pages, 282 illustrations. Harvard University Press, Cambridge 1948 \$10

Most Americans are aware of the fact that our earliest English colonial architecture stemmed from medieval rather than from Renaissance beginnings. Few, however, understand the extent or character of the structures themselves. This, of course, is due to the paucity of monuments. In this

highly competent study, the author, who is professor of art at Agnes Scott College, achieves a complete delineation of medieval structural forms as they were realized in Maryland, Virginia, the Carolinas, Georgia and Bermuda.

Necessarily much of what is shown here is in the nature of restorations by the author of structures no longer standing but, viewed against the backgrounds of demonstrated knowledge in this field, Doctor FORMAN's reconstructions make sound architectural sense. He sketches the importation of medieval English building ideas into each of the above-named colonies, traces the development of the salient forms on this side of the Atlantic, and cites illustrative examples in each of these areas. Furthermore, he traces the persistence of medieval traits in Southern architecture down to 1850.

The text is clearly written and the presentation largely pictorial. The author embodies much of his argu-

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ment in 282 figures, principally drawings, so arranged that it is possible to compare each trait and feature of this highly interesting style with its English prototype. A few photographs picture existing examples like Saint Luke's Church in Isle of Wight County, Virginia, and Trinity Church, Dorchester County, Maryland, *c.* 1680. Exceedingly interesting are the author's restorations of the Governor's Castle, Saint Mary's City, Maryland, *c.* 1638, Bacon's Castle, *c.* 1680, and various "cross houses" in Virginia. An adequate bibliography is included.

For those who would pretend to understand our earliest English colonial architecture, Doctor FORMAN's book is indispensable.

REXFORD NEWCOMB

University of Illinois

Hellenika Trapezophora, by GEORGE BAKALAKIS. 55 pages, 4 plates. Thessaloniki 1948. (University of Mississippi and Johns Hopkins Studies in Archaeology No. 39, edited by DAVID M. ROBINSON) \$1.50 (*In Modern Greek*)

This monograph is a welcome introduction to a type of Greek monument, the trapezophora, or table supports, of which no study has ever been made.

The work is based on five hitherto unrelated fragments of Parian marble from the excavations of Delos, their restoration, and the interpretation of the reliefs on them. The marble, the dimensions, and the style of the reliefs are completely in agreement with the restoration, and the existing fragments form the major part of Type A table support. Type A, of which eight more examples are briefly dis-

cussed, loses its austere character during the Hellenistic period when the table supports are gradually taking the form of animal legs. This led to the creation of Type B.

In that type, the panel between the animal legs gradually presents greater ornamentation, with winged animals or various plant or flower motifs in relief, as found on the one from the Roman agora at Athens. The type is generally regarded as Roman, but according to the author, it is simply an elaboration of an earlier Greek prototype. That we have more examples of Type A from the Classical period is no indication that Type B was not in use, but that the artist avoided in his monumental work the use of a type more reminiscent of the practical arts, such as household furniture.

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